

IOWA BIRD LIFE

Winter 1999 Volume 69 Number 1



IOWA ORNITHOLOGISTS' UNION

IOWA BIRD LIFE

Winter 1999

Volume 69, Number 1

CONTENTS

THE RECOVERY OF THE BALD EAGLE AS AN IOWA NESTING SPECIES.....	1
<i>Bruce L. Ehresman</i>	
BIRDING CORALVILLE RESERVOIR	13
<i>Chris Edwards</i>	
SPRING BIRD COUNT-1998.....	21
<i>Ann Barker</i>	
FIFTY YEARS AGO IN IOWA BIRD LIFE	29
FIELD REPORTS--FALL 1998.....	30
<i>Thomas H. Kent</i>	
LITTLE GULL IN POTTAWATTAMIE COUNTY	40
<i>Babs Padelford</i>	
A MYSTERY FLYCATCHER.....	41
<i>Matthew C. Kenne</i>	
UNUSUAL BEHAVIOR BY A WILSON'S WARBLER.....	42
<i>Jean B. Braley</i>	
I.O.U. BUSINESS.....	43
<i>Fall Business meeting, 12 September 1998</i>	
<i>Board of Directors meeting, 12 September 1998</i>	
NOTE FROM THE EDITOR.....	44

FRONT COVER: Adult Bald Eagle. Photo by Don Poggensee.

INSIDE BACK COVER: Editorial Staff, Subscription/Membership Information, Instructions to Authors, Officers, Board of Directors, Standing Committees.

BACK COVER: Meeting Dates, Report Deadlines, Birdline, Materials Available.

Copyright 1999 Iowa Ornithologists' Union

THE RECOVERY OF THE BALD EAGLE AS AN IOWA NESTING SPECIES

BRUCE L. EHRESMAN

From 1906 through 1976, Iowa had no documented nesting Bald Eagles. The demise and subsequent recovery of the Bald Eagle as a nesting species in Iowa is, in many regards, reflective of the trend for the overall Bald Eagle population in this country. Once thought to be gone from the state forever, then viewed with guarded optimism, the eagle has made a dramatic come-back far surpassing the recovery goals set for this species.

In this paper, I discuss the history of nesting Bald Eagles in Iowa, provide some reasons for their decline, and document their recent recovery. County locations and numbers of current nests will be presented, as well as nesting data since 1977.

METHODS

I have searched both written historical reports and recent records to compile information for this paper. Written reports on Bald Eagles in Iowa, the Midwest, and North America were searched to gain a perspective on their historical occurrence in Iowa and the recovery of the species in North America. Iowa nest records from 1977 through 1984 were kept by former State Ecologist, Dean Roosa, and I have maintained records for eagle nests from 1985 until the present. Records of eagle nests along the Mississippi River have come largely from the U. S. Fish and Wildlife Service (USF&WS), particularly from District Offices in McGregor, Iowa and Savanna, Illinois. Records of nests away from the Mississippi River have been received primarily from Department of Natural Resources (DNR) and county conservation board staff and from the private sector. For consistency and comparative purposes, definitions used in this paper are the same as those used by the USF&WS and are as follows:

Occupied nest (territory)--One which contains some degree of eagle activity during the breeding season, i.e., eagles present, not necessarily seen breeding.

Active nest (territory)--One which contains evidence of breeding birds, i.e., incubating adult, egg in nest, or young in nest (see Figure 1).

Successful nest (territory)--One in which eaglet(s) in advanced stage of development were observed.

NATIONAL DECLINE

When Euro-Americans first arrived in North America, it was estimated that between a quarter and a half-million Bald Eagles inhabited this continent (Gerrard and Bortolotti 1988). As pioneers moved westward, forests were cut and the woodland habitat occupied by eagles was altered. Direct persecution, removal of important winter foods, and changes in eagle habitat, particularly nesting habitat, appear to have kept Bald Eagle numbers low until the 1940s (Grier 1980). The passage of the Bald Eagle Protection Act of 1940 was the first real effort to protect eagles, especially from shooting. The use of organochlorine pesticides, such as DDT, after World War II also severely devastated eagle populations (Broley 1958, Carson 1962). It was only after organochlorine pesticide use was banned in this country in 1972 and the Bald Eagle was listed on the Endangered Species Act in 1978 that this species began to

recover (U.S. Department of Interior 1995). The fact that the Bald Eagle was upgraded to threatened status in most of the contiguous United States in late 1995 points to the value and success of the Endangered Species Act.



Figure 1. Adult Bald Eagles attending nest with two young eagles visible. Photo courtesy of Steve Ray, Rock Island, IL.

HISTORIC IOWA NESTING RECORDS

Early records do not give us a good idea of how many pairs of Bald Eagles once nested in Iowa, but we do know that eagles were "formerly common in Iowa and frequently nested in favorable localities" (Anderson 1907). Names of places, such as Eagle City (Hardin County), Eagle Point (Dubuque County), Eagle Grove (Wright County), Eagle Center (Black Hawk County), and Eagle Lake (Emmet and Hancock counties), suggest that this species was once very widespread in Iowa. Certainly early records reflected that notion. There were four nests recorded for Allamakee County by Ellison Orr, with the last known active nest in 1864 (Allert 1939, Orr 1937). Spurrell (1917) reported that the last known active nest in Sac County was in 1871. The last nesting in Black Hawk County was about 1872 (Anderson 1907). DuMont (1934) recorded a nest which had two eggs collected from it near Alden in Hardin County in 1873. Eggs were collected from two nests in Sioux County in 1873 and 1875, respectively (Mattsson 1988). At a long-occupied nest near Rowan in Wright County, the adult eagles were killed and two young were taken from the nest in May 1877 (Birdsall 1915). Anderson (1907) referred to Bald Eagles breeding along the Cedar River near Mount Vernon sometime in the early 1880s. A nest was reported near Bluffton in Winneshiek County prior to 1891 (Mattsson 1988), and Bailey (1918) told of a nest near Waubeek (Linn County) on the Wapsipinicon river in 1892. DuMont (1934) also indicated that nesting occurred in Polk County prior to 1909. Perhaps the last nest documented near the turn of the century was in Jasper County in 1905, where two young eaglets were taken from a nest near Kellogg

(Anderson 1907). Apparently there was a nest site at a bluff near town where eggs were collected. It is unknown if the bluff nest site was the same site from which the young were taken.

Certainly these historic records of eagle nesting in Iowa indicate at least one reason that eagles disappeared from Iowa as a nesting species by the early 1900s. Orr (1937) records several accounts from the early 1850s. In one report, the grandson of a pioneer told him that "...when Grandpap Ewing settled there [north side of Yellow River, Allamakee County], the eagles had a nest in the cave in the cliff." Apparently, Grandpap Ewing shot the eagles because they were carrying off his chickens. In another account from Orr (1937), a pioneer told a story of shooting an adult Bald Eagle from a nest in a White Pine tree on Waterloo Creek near the Minnesota/Iowa line. Many of these early records also indicate that eggs or young were taken from nests. Shooting and nest robbing indicated that direct persecution of eagles undoubtedly played a role in the demise of Iowa's nesting eagles.

RECENT IOWA NESTING RECORDS

No records could be found of Bald Eagles nesting in Iowa for many decades after 1905. In 1934, DuMont (1934) wrote, "Despite the fact that the Bald Eagle is protected under the game laws of the State of Iowa, a few of them are killed each year. . . It is highly improbable that the eagle will ever nest in Iowa again, but every effort should be made to preserve the migrant birds while they are with us." As improbable as it seemed, the Bald Eagle would nest in Iowa again. The first nest noted in more than 70 years was located near New Albin on the Mississippi River floodplain in 1977 (Roosa and Stravers 1989). Two young were produced that first year (Table 1), but it was not until 1980 that another eaglet was produced from that nesting territory. It is interesting to note that this same territory is still active today. This makes it Iowa's oldest active eagle territory, and at least 21 young have fledged from the site (Iowa Department of Natural Resources unpublished records).

Considered an extirpated species on Iowa's first Threatened and Endangered Species list in 1977 (Roosa 1977), the Bald Eagle is currently listed as Endangered (Howell and Leoschke 1992). It is presently being proposed for upgrading to Threatened status in Iowa. In 1984, Dinsmore et al. (1984) considered the Bald Eagle a rare summer resident. It was in 1985 that a second Iowa eagle nest appeared, just three miles downstream from the first. That nest produced three young. During 1986, a third nesting territory was occupied in Allamakee County on the Mississippi River, and a fourth was found in Jackson County. The first documented nest away from the Mississippi River was found in 1987 along the Skunk River near Coppock in Jefferson County (Figure 2). The next year there were eight active nests reported. Two more new nests were discovered away from the Mississippi River, one in Allamakee County and one in Fremont County near Forney Lake. A new nest was also found in Clayton County along the Mississippi River, and a nest in a huge cottonwood tree was reported by towboat captain, Pat Flippo, for Des Moines County near the mouth of the Skunk River.

As part of the USF&WS regional plan for Bald Eagle recovery, in 1981 Iowa established a goal of 10 active Bald Eagle nests by the year 2000 (Grier 1988). This goal was surpassed in 1991 when the number of active nests jumped to 13 (Figure 3). Nest numbers climbed to 21 in 1992: Allamakee County had 11 active nests; Clayton County had three; Jackson County had two; and five additional counties--Jones, Benton, Iowa, Mahaska, and Winneshiek--each held one nest. Bald Eagle enthusiasts were amazed as Iowa's steady upward nesting trend continued. In 1993,

the 32 active nests recorded quadrupled the number of nests found just five years earlier. During 1993 and 1994, nesting progressed westward in the state into Black Hawk, Howard, Webster, Sac, and Buena Vista counties (Figure 2). Nesting pairs also continued to establish themselves in the southeastern portion of the state and frequented Linn, Clinton, Washington, and Lucas counties.

Table 1. Annual Bald Eagle production for Iowa from 1977 through 1998.

<u>Year</u>	<u>No. of active nests</u>	<u>No. of successful nests</u>	<u>No. of nests with three young</u>	<u>No. of known young</u>	<u>No. of young per successful nest</u>	<u>No. of counties with active nests</u>
1977	1	1	0	2	2.0	1
1978	0	0	0	0	0	0
1979	1	0	0	0	0	1
1980	1	1	0	1	1.0	1
1981	1	0	0	0	0	1
1982	1	1	0	1	1.0	1
1983	1	1	0	1	1.0	1
1984	1	1	0	2	2.0	1
1985	2	1	1	3	3.0	1
1986	3	3	1	6	2.0	2
1987	4	3	1	6	2.0	3
1988	8	6	0	9	1.5	6
1989	9	7	1	11	1.6	5
1990	8	7	2	13	1.9	6
1991	13	9	4	21	2.3	8
1992	21	14	2	25	1.8	8
1993	32	18	0	27	1.5	13
1994	36	24	2	44	1.8	16
1995	43	31	5	58	1.9	16
1996	54	40	10	71	1.8	20
1997	62	42	1	64	1.5	26
1998	84	47	5	82	1.8	33
Totals	386	257	35	447	1.7	42

Each year more eagle pairs continued to adapt to Iowa's fragmented and highly used landscape. In 1995, the number of active nesting pairs climbed to 43 (Table 1), and eagle pairs had now nested in 23 counties on 14 river systems. The largest boost in eagle nesting numbers occurred during 1998, when 84 active nests were reported in 33 counties. This increase of 22 nests from 1997 followed a mild winter in which a record of 1,737 Bald Eagles was tabulated in January 1998 during the Midwinter Bald Eagle Survey (Ehresman 1998). It appeared that some eagle pairs opted to nest in areas in which they were wintering, particularly in western Iowa. Nests were recorded in eight new counties in 1998: Lyon, Sioux, Mills, Calhoun, Humboldt, Butler, Bremer, and Buchanan counties. Although the Buchanan County nest was first tallied in 1998, a DNR Conservation Officer confirmed that it was built in 1995 (Figure 2). With this latest tally, eagles had now nested in 42 counties (Figure 2) in association with 30 rivers and creeks (Table 2).

PRODUCTION OF EAGLE YOUNG

As the number of active nests increased from 1977 to 1998, so did the number of young produced each year (Table 1). From zero to three eaglets were produced for each of the years from 1977 through 1985. For the next several years, a slow but steady increase in the number of nests occurred until 1990, when seven of the eight active nests successfully fledged 13 youngsters. For several years, there was an increase of about seven active nests per year, and in 1995, 58 young fledged from 31 successful nests. A significant increase was seen in the number of eaglets produced during the next year (Figure 3). Then, in 1997, a drop in the number of eagle young produced was noted, even though the number of active nests increased. Eagle pairs were back on track production-wise in 1998, and 47 successful nests fledged at least 82 young. There were 15 nests for which the nesting outcome was unknown in 1998, so it is likely that there were a number of fledglings that went unrecorded.

Table 2. Rivers and creeks associated with Iowa Bald Eagle nest sites in 1998.

<u>Name of river or creek</u>	<u>No. of nests</u>	<u>Name of river or creek</u>	<u>No. of nests</u>
Mississippi River	32	North Raccoon River	1
Upper Iowa River	6	Raccoon River	1
Cedar River	6	Little Sioux River	1
Missouri River	4	Rock River	1
Yellow River	3	Boone River	1
Turkey River	3	Grand River	1
Volga River	3	Chariton River	1
Iowa River	3	English River	1
Maquoketa River	2	Robert's Creek	1
North Fork, Maquoketa River	2	Buck Creek	1
Skunk River	2	Canoe Creek	1
Wapsipinicon River	1	Lytle's Creek	1
Shell Rock River	1	Bear Creek	1
Des Moines River	1	Whitewater Creek	1
East Branch, Des Moines River	1	Crooked Creek	
		(not active in 1998)	

Iowa eagles are very productive. Beginning in 1985, from the first time that there were at least two nests known, the average number of young per successful nest has never fallen below 1.5 eaglets (Table 1). The average for this same category for all 22 years is 1.7 young per successful nest. This compares well to data from four districts of the Upper Mississippi River National Wildlife and Fish Refuges. On the Mississippi River from 1986 through 1997, the number of young per active nest with known production averaged 1.4 eaglets (Nelson 1998). Iowa production is also greater than a compilation of several studies which indicated that a successful nest, on average, produced 1.6 eaglets (Stalmaster 1987). Of further interest is the fact that 13.6% of Iowa nests produced three young each. This is a very high percentage if one considers that, according to Stalmaster (1987), for 3,893 occupied nests throughout North America in the 1960s and 1970s, only two percent produced three young each. In 1996 alone, 10 of the 40 (25%) successful Iowa nests produced three young each.

Although somewhat speculative at this point, it appears that the nest productivity data in Table 1 show some correlation with weather patterns. Gerrard and Bortolotti (1988) pointed out that the physical condition that a female Bald Eagle achieves during winter months may be just as important to reproduction as their food supply is during spring months. Harsh winter weather coupled with poor weather conditions in the spring led to low reproduction of young eagles in the Greater Yellowstone Ecosystem (Swenson et al. 1986). The fact that Iowa had an excellent nesting season in 1998, after a rather mild winter, may be indicative of eagles reaching the nesting season in excellent physical condition. On the other hand, weather probably played a role in diminished reproduction during 1993, when Iowa experienced an extremely rainy nesting season. That year, the number of young produced per successful nest was 1.5, which was the lowest rate for any year that there were at least two active nests recorded. Nesting data from 1986 through 1997 for the Upper Mississippi River National Wildlife and Fish Refuges also indicated that 1993 had the least production, 1.0 young per successful nest, of any year (Nelson 1998). Prior to tabulating nest success in 1993, I speculated that the high water conditions and resulting turbidity would make fishing difficult for the eagles and could affect nest production. Apparently it did. It is also worth mentioning that 1993 was the only year from 1990 through 1998 for which no nests were known to produce three eaglets in Iowa.

STREAMS WITH NESTS

Iowa Bald Eagles have nested along 30 different rivers and creeks since 1977, and 29 of those riparian corridors held active nests in 1998 (Table 2). The Mississippi River is still by far the most important waterway in Iowa to the survival of the Bald Eagle. It contained 32 active nests in 1998 (Figure 4). Next in importance were the Upper Iowa and Cedar rivers with six nests each and the Missouri River with four nests. All other waterways, listed in Table 2, held three or fewer nests, with the majority having one nest each. It will be interesting to see which river systems might gain in importance to nesting eagles in future years.

PREFERRED NEST TREES

Another aspect of Bald Eagle nesting which is of importance is the tree species in which these majestic birds choose to nest in (Table 3). Nest trees are typically stout for their height and have large crowns with an open canopy (Gerrard and Bortolotti 1988). The large crown provides an optimum site to build a large nest, and the open canopy allows these birds with seven-foot wingspans to land and take off without being impeded. The nest tree is usually alive, but the top of the tree is often dead or dying (Mathisen 1983). Nest tree data presented here are from 1998 only, but they include both active and inactive Iowa nests. Data were not included for nests located on the Mississippi River floodplain in northeastern Iowa. The favored tree used for nesting in Iowa was the Cottonwood (*Populus deltoides*). White Pine (*Pinus strobus*) was next in importance. I suspect that White Pine would be even more significant as a nest tree if it were more abundant and if it occurred naturally in places other than northeastern Iowa. In Chippewa National Forest in northern Minnesota, the White Pine is the favored nest tree holding 53% of all nests (Mathisen 1983). Several species of oak (*Quercus* sp.) contained a significant portion of Iowa's eagle nests. Since oak trees, in general, are more abundant on upland sites, I suspect that as eagles nest away from river bottomlands, there will be an increase in use of these trees as nest sites.

1947). First-year nests that I have observed are usually about five feet across and three-to-four feet deep. The nests grow larger with each year of use as both adults add more sticks. A two-year-old nest in which I stood, near Cascade in Jones County, was more than seven feet across and six feet deep. Besides sticks, there were also many cornstalks woven into that nest. Sherrod et al. (1976) found that Alaska eagles also used a variety of materials when constructing their nests.

Iowa records indicate that egg-laying usually occurs from mid-February to mid-March, and early nest initiation happens predominantly during mild winters. From our nest watchers reports, it appears that a number of eagle pairs stay near their nest site year-around. This is especially true if the river or creek that the nest is adjacent to stays open during the winter months. Other studies agree that local conditions, particularly food availability, will likely determine whether an eagle pair leaves their territory when there is a change in the season (Gerrard and Bortolotti 1988). Eagles that remain in their nesting area are likely to be able to nest earlier than those that migrate, and there is evidence that eagles which nest early in the season are more productive than those which nest later (Broley 1947).

There has been no effort to keep track of the number of eggs in Iowa's eagle nests, mostly because of the fear of causing nest abandonment during that critical stage of nesting. In Saskatchewan, 73.5% of Bald Eagle nests contained two eggs, 23.5% held three eggs, and 3% contained only one egg (Gerrard and Bortolotti 1988). The normal incubation time is 35 days (Stalmaster 1987, Gerrard and Bortolotti 1988). Both parents share incubation duties and, once hatched, both parents attend the young. Gerrard and Bortolotti (1988) determined that young males fledge sooner than females and typically first fly at about 78 days of age. Females first fly, on average, when 82 days old. In Iowa, most young fledge from early June to early July. Parents continue to feed youngsters for about six to eight weeks after fledging, and then these self-sufficient young begin to leave their natal area. In some populations that do not migrate, young eagles sometimes stay near the nest for a number of years (Sherrod et al. 1976). It appears that some eagles which hatched from Iowa nests remain in the nest vicinity for at least one year. I have witnessed two separate cases where an immature Bald Eagle appeared to be "helping" adults at a nest site attend eaglets that could not yet fly. Several eagle nest watchers have also reported this phenomenon. Whether these immature "helpers" fledged from the same nest in previous years is yet to be determined.

DISCUSSION

Undoubtedly there are several reasons why nesting Bald Eagles have staged a comeback in Iowa. One reason for the recovery may be related to this species' ability to pioneer into suitable nesting habitat. This was not only true of Iowa's first nest in seven decades, which appeared suddenly in Allamakee County, but it also became obvious in 1987 when a pair of eagles nested in Jefferson County along the Skunk River. It was further evidenced in 1988 when an eagle pair nested in extreme southwestern Iowa in Fremont County near the Missouri River. Another key element helping eagle recovery appears to be Iowa's close proximity to one of the more stable nesting populations of Bald Eagles in the continental United States. Three states to the north, Minnesota, Wisconsin, and Michigan, presently have a combined total of more than 1,800 nesting pairs, which is about one-third of all nesting eagles in the lower 48 states (Jody Millar, personal communication). There is little doubt that Iowa's eagle population is benefitting from its neighbors to the north. Even in 1998,

more than half of Iowa's eagle nests were found in four counties in the northeastern corner of the state (Figure 4).

An unanticipated factor that has helped Bald Eagle numbers recover is their adaptability. Gerrard and Bortolotti (1988) pointed out how nesting eagles in Saskatchewan learned to tolerate fishermen in boats who approached their nest sites, while these same birds became very agitated when eagle researchers in boats approached their nests. It appears that eagles nesting in the Mississippi River floodplain may also be somewhat tolerant of boat traffic, although McKay et al. (1995) have evidence to indicate some disruption is occurring. It has also been stressed that some eagles are more tolerant of disturbance than others. This has certainly been the case in Iowa. There are now several nests located within 400 yards of buildings. One nest along the Upper Iowa River in Howard County is only about 100 yards from the bedroom window of two rather excited eagle nest watchers. The nest is located across the river and, so far, human activities have not negatively affected the nest's success. Grier (1988) explained that eagles' ability to tolerate human activity and nest close to buildings has . . . "broadened their amount of available habitat and living space."

FACTORS AFFECTING THE FUTURE

Although the outlook for Iowa's eagle population is favorable, there is no reason to be complacent. Unmanaged logging continues to pose a threat to eagles, and I strongly believe that the removal of large, old cottonwoods along our streams will limit where eagles can nest and find foraging perches.. I personally know of two central Iowa eagle roost sites which have been logged within the last 18 months, and fewer eagles are already being seen at one of these sites. Logging near eagle nests also can affect the nesting outcome. There are at least two cases in Iowa where logging near nests may have affected use of those sites in subsequent years. Although unproven, it was reported that a nest tree in Allamakee County was cut and removed during the winter months when eagles were not present. Even though there are strict federal laws protecting eagle roost and nest sites against disturbance during their occupancy, cutting of nest or roost trees of Bald Eagles during the time of year that eagles are not using them is not prohibited. Gerrard and Bortolotti (1988) felt that degradation of habitat is probably the most serious problem facing eagles today.

Biologists who study Bald Eagles believe that it is best to concentrate efforts on increasing survivorship rather than increasing reproduction. Production of new eagles is secondary to the need for keeping alive those already in a population (Grier 1980). For a long-lived and slow reproducing species like the eagle, if the survival of full-grown birds is poor, the population can decrease quickly. Because of this, killing adult Bald Eagles can have a much greater impact than disrupting their nesting efforts. This is one reason why, of the human-induced mortality factors for Bald Eagles, shooting is perhaps the most serious (Stalmaster 1987, Redig et al. 1983). Lead poisoning is also still a concern, as several eagles are found in Iowa each year, either dead or suffering from this problem. Five out of eight Bald Eagles found sick in Iowa and brought to wildlife rehabilitators between November 1998 and January 1999 suffered from lead poisoning. Since Bald Eagles routinely feed on injured waterfowl, this problem will probably continue until lead shot is banned for waterfowl hunting in Canada.

The impact of current pesticide use on Bald Eagles is not well known. And even though pure DDT cannot be legally applied in this country, pesticides which contain DDT as a component can be. As one brand of these pesticides was phased out over a

three-year period, about 40,000 pounds of DDT was to be applied in California (Gerrard and Bortolotti 1988).

Despite current problems which face Bald Eagles, it is important that we celebrate this unique raptors recovery. In 1963, an Audubon Society survey found only 417 remaining Bald Eagle nests in the continental United States. It was a species headed for extinction. Today that number is more than 5,700 active nests (Jody Millar, personal communication). Iowa, which had no nests for more than 70 years, will probably reach 100 active nests in 1999. The Bald Eagle has staged an impressive comeback. The enforcement of protective laws and a change in the public's attitude toward eagles have helped bring back this species. There are now at least 13 Bald Eagle Appreciation Days held in Iowa each winter to celebrate the existence of eagles, and between 12,000 and 15,000 people gather at these events. It appears that after several hundred years of persecuting this wonderful bird, we finally are on the right track.

ACKNOWLEDGMENTS

I thank the many Iowans who have watched over our eagle nests and provided information that better helps the different agencies protect them. Thanks to Dean Roosa and Jon Stravers for inspiring Iowans to care about raptors. My ability to monitor the Bald Eagle nests in Iowa for many years has been supported by the Iowa Department of Natural Resources Wildlife Diversity Program. And a special thank you to Marlene Ehresman, a special spouse, who puts up with my compulsion to help Iowa's rarer species and always generously helps edit papers like this.

LITERATURE CITED

- Allert, O. P. 1939. Notes on certain raptors in Allamakee, Clayton and Dubuque Counties, Iowa. *Iowa Bird Life* 9:34-36.
- Anderson, R. M. 1907. The birds of Iowa. *Proceedings of the Davenport Academy of Science* 11:125-417.
- Bailey, B. H. 1918. The raptorial birds of Iowa. *Iowa Geological Survey Bulletin* no. 6. 238 pp.
- Birdsall, B. P. 1915. History of Wright County, Iowa: Its people, industries, and institutions. B. F. Bowen and Company, Indianapolis, Indiana. 1061 pp.
- Broley, C. L. 1947. Migration and nesting of Florida Bald Eagles. *Wilson Bulletin* 59:3-20.
- Broley, C. L. 1958. The plight of the American Bald Eagle. *Audubon* 60:162-171.
- Carson, R. L. 1962. *Silent Spring*. Houghton Mifflin Co., New York. 368 pp.
- Dinsmore, J. J., T. H. Kent, D. Koenig, P. C. Petersen, and D. M. Roosa. 1984. *Iowa Birds*. Iowa State University Press, Ames. 356 pp.
- DuMont, P. A. 1934. The Bald Eagle as an Iowa bird. *Iowa Bird Life* 4:2-4.
- Ehresman, B. L. 1998. Bald Eagle survey. Iowa Department of Natural Resources, *Wildlife Notes* 17(1):3-6.
- Gerrard, J. M. and G. R. Bortolotti. 1988. *The Bald Eagle, Haunts and Habits of a Wilderness Monarch*. Smithsonian Institution Press, Washington. 177 pp.
- Grier, J. W. 1980. Modeling approach to Bald Eagle population dynamics. *Wildlife Society Bulletin* 8:316-322.
- Grier, J. W. 1988. *Northern states Bald Eagle recovery team report*. Report of Raptor Research Foundation, Minneapolis, Minnesota.

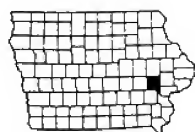
- Howell, D., and M. Leoschke. 1992. *Living on the edge: Endangered species in Iowa*. Iowa Department of Natural Resources, Des Moines. 22 pp.
- McKay, K. J., J. W. Stravers, and U. Konig. 1995. *Report assessing the impacts of human activity on Bald Eagle reproductive success along the Upper Mississippi River during the 1994 breeding season*. Technical Report: U.S. Fish and Wildlife Service Upper Mississippi River Fish and Wildlife Refuge, McGregor, Iowa. 51 pp.
- Mathisen, J. E. 1983. Nest site selection by Bald Eagles on the Chippewa National Forest. Pp. 95-100 in *Biology and Management of Bald Eagles and Ospreys* (D. M. Bird, ed.). Harpell Press, St. Anne de Bellevue, Quebec.
- Mattsson, J. P. 1988. Annotated historical records of Bald Eagles from the northern United States. U.S. Fish and Wildlife Service, *Biological Report* 88(10). 65 pp.
- Nelson, E. 1998. *1997 Bald Eagle production on the refuge*. U. S. Fish and Wildlife Service Memorandum, Upper Mississippi River Fish and Wildlife Refuge, Winona, Minnesota.
- Orr, E. 1937. Notes on the nesting of the Bald Eagle in Allamakee County, Iowa. *Iowa Bird Life* 7:18-19.
- Redig, P. T., G. E. Duke, and P. Swanson. 1983. The rehabilitation and release of Bald and Golden Eagles, a review of 245 cases. Pp. 137-147 in *Biology and Management of Bald Eagles and Ospreys* (D. M. Bird, ed.). Harpell Press, Ste. Anne de Bellevue, Quebec.
- Roosa, D. M. 1977. *Endangered Iowa birds: (An annotated list of endangered, threatened, extirpated or 'status undetermined' birds of Iowa)*. Special Report of the Preserves Board No. 4. Iowa Conservation Commission, Des Moines. 25 pp.
- Roosa, D. M., and J. Stravers. 1989. Nesting of raptors uncommon in Iowa: Summary and new records. *Journal of the Iowa Academy of Science* 96:41-49.
- Sherrod, S. K., C. M. White, and F. S. L. Williamson. 1976. Biology of the Bald Eagle on Amchitka Island, Alaska. *Living Bird* 15:143-182.
- Spurrell, J. A. 1917. Annotated list of water birds, game birds, and birds of prey of Sac County, Iowa. *Wilson Bulletin* 29:141-160.
- Stalmaster, M. V. 1987. *The Bald Eagle*. Universe Books, New York. 227 pp.
- Swenson, J. E., K. L. Ault, and R. L. Eng. 1986. Ecology of Bald Eagles in the Greater Yellowstone ecosystem. *Wildlife Monographs* 95.
- U. S. Department of Interior. 1995. Endangered and threatened wildlife and plants; Final rule to reclassify the Bald Eagle from Endangered to Threatened in all of the lower 48 states. *Federal Register*. 60(133):36000-36001.

Iowa Department of Natural Resources, 1436 255th Street, Boone, IA 50036

BIRDING CORALVILLE RESERVOIR

CHRIS EDWARDS

The Coralville Reservoir area in northern Johnson County is one of eastern Iowa's top birding locations. Coralville Reservoir is a 5,430-acre reservoir located north of Iowa City along the Iowa River valley. Several recreation areas managed by the U. S. Army Corps of Engineers offer access to the reservoir and the adjacent wooded bluffs. The upper flood basin of the reservoir, consisting of open water, wetlands, fields, and woodlands, is managed by the Iowa Department of Natural Resources as Hawkeye Wildlife Area. Lake Macbride State Park, featuring a man-made lake surrounded by wooded uplands and open areas, is located northeast of the reservoir. Macbride Nature Recreation Area, Swan Lake, Hanging Rock Woods, and Williams Prairie are other nearby areas which are visited by birders. The quality of the habitat for birds in many locations varies with the water level on the reservoir. Some of the roads are low-maintenance and at times are impassable due to mud, snow, or high water. Most of the public areas are open to hunting during season.

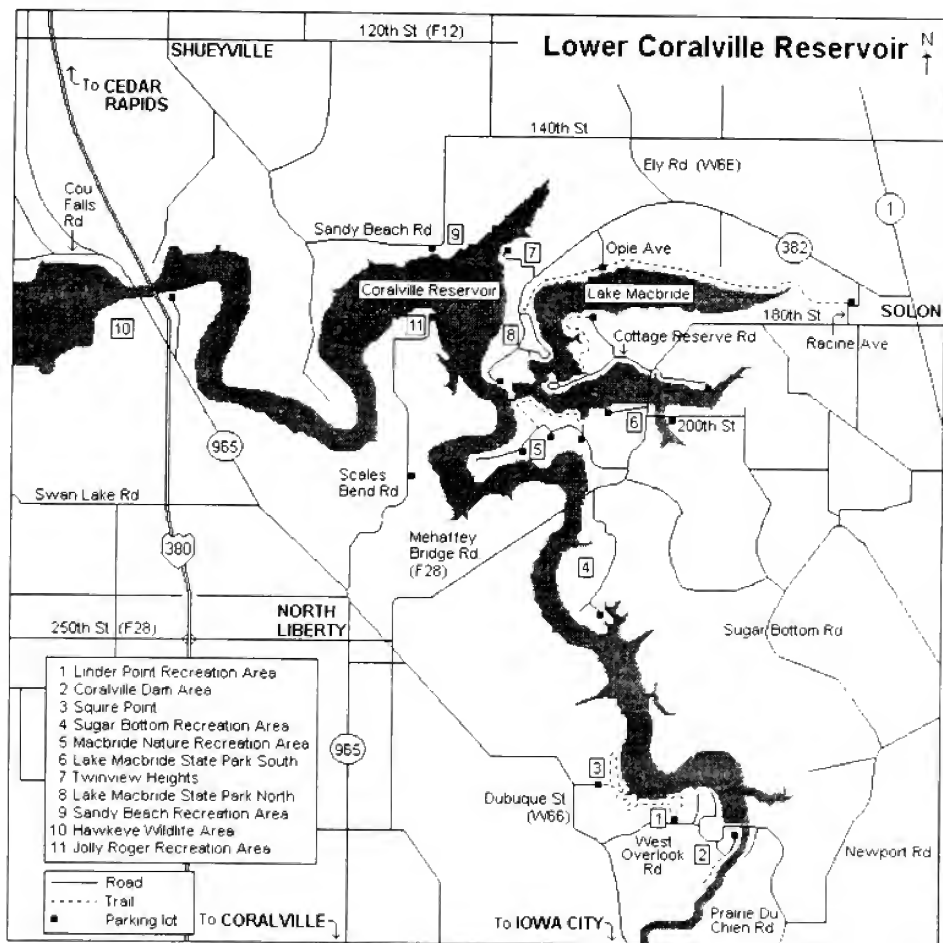


During migration, the area supports large numbers of ducks and geese, as well as loons, grebes, pelicans, cormorants, herons, gulls, and terns. When water levels are low or receding, extensive mudflats attract large numbers of migrating shorebirds. All of the regular Iowa shorebirds have been seen, including Piping Plover, American Avocet, Willet, Hudsonian and Marbled godwits, Ruddy Turnstone, Sanderling, Western, Baird's, and Buff-breasted sandpipers, and Red-necked Phalarope. Migrating and wintering raptors are frequently seen. Long-eared, Short-eared, and Northern Saw-whet owls are usually found each winter. Wooded areas provide habitat for migrating and nesting warblers and other passerines. Weedy fields and hedgerows provide excellent places to find sparrows during migration.

Rare summer residents, most of which probably nest, include Double-crested Cormorant, Cooper's Hawk, Pileated Woodpecker, Acadian Flycatcher, Brown Creeper, Bell's Vireo, and Yellow-throated, Prairie, Cerulean, Prothonotary, and Kentucky warblers. Rarities seen in recent years include Snowy Egret, Little Blue Heron, Yellow-crowned Night-Heron, White Ibis, Cinnamon Teal, Oldsquaw, Mississippi Kite, Northern Goshawk, Yellow Rail, Whimbrel, Sharp-tailed and Curlew sandpipers, Ruff, Red Phalarope, California, Lesser Black-backed, Glaucous, and Sabine's gulls, Black-legged Kittiwake, Least Tern, Snowy Owl, Black-throated Blue and Worm-eating warblers, Western Tanager, Black-headed Grosbeak, Spotted Towhee, Nelson's Sharp-tailed Sparrow, and Hoary Redpoll.

Coralville Dam Area: Begin the tour at the intersection of Dubuque Street (County Road W66) and Interstate 80 in Iowa City (I-80, Exit 244). Follow Dubuque Street north for 2.6 miles, then turn right on West Overlook Road and proceed 0.6 mile to a parking lot on the left at Linder Point Recreation Area. From the trailhead here, several miles of trails wind along the forested bluffs overlooking the reservoir. Cerulean Warblers are sometimes found in this area during the breeding season. Continue east on West Overlook Road and follow the signs to the beach above the dam. This area is crowded with visitors in summer and closed to vehicles in winter, but during early spring and late fall gulls often congregate here, and diving ducks and grebes may be present. Return to West Overlook Road and follow the signs to Tailwater West below the dam where, in late fall and early spring, gulls may be seen

flying over the water. The open water below the dam in winter attracts small numbers of waterfowl and Bald Eagles, which may be viewed from the road or from the trail which leads south along the river. Pileated Woodpeckers have been seen occasionally along the trail. Drive across the dam to the East Overlook area. The short paved trail on the south side of the road leads to a bird blind where common woodland birds may be observed visiting feeders. At the Coralville Lake Visitor Center, located on the north side of the road, you may obtain a map of the area and view interpretive displays. When you have finished exploring the dam area, return to Dubuque Street and turn right. In 0.9 mile a turnoff on the right leads to the Squire Point trailhead, which connects to the Linder Point trails. Continue on to North Liberty and turn right on Front Street (2.4 miles), which becomes Mehaffey Bridge Road (County Road F28) outside the city limits.



Sugar Bottom Recreation Area: Just past Mehaffey Bridge (3.0 miles), pull over on the wide shoulder and scan the reservoir for gulls, terns, ducks, and other water birds. Cliff Swallows nest under the bridge. The hillside on the right just beyond the entrance to Sugar Bottom Recreation Area is a favored spot for watching the fall raptor migration. Broad-winged and Cooper's hawks peak in mid- to late

September, while Sharp-shinned Hawks are commonly seen from mid-September to mid-October. Ospreys are also regular migrants during September and early October, and an occasional Peregrine Falcon is seen. The road into Sugar Bottom Recreation Area, which is closed to vehicles in winter, leads 1.6 miles to a campground and beach, which offers a view of the reservoir. Snow Buntings and American Pipits have been found on the beach in late fall. Use caution in this area during hunting season.

Macbride Nature Recreation Area: Continue north on Mehaffey Bride Road 0.6 mile to Macbride Nature Recreation Area on the left. This 480-acre tract managed by the University of Iowa is home to the Macbride Raptor Center. Hours are 6:00 a.m. to 9:00 p.m. April through October and 9:00 a.m. to 6:00 p.m. November through March. The nine miles of trails offer excellent opportunities for viewing warblers and other passerines during summer and migration. In general the areas north of the entrance road are heavily wooded, while the areas south of the road are a mosaic of woodlands, conifer plantings, open fields, and restored prairie. Stop at the information display near the entrance for a map of the area.

A large brushy hillside is located on the right side of the road 0.5 mile from the entrance. Blue-winged Warblers may be heard here during the nesting season, and Prairie Warblers have been observed here on two occasions. To reach one of the best trails in the area for nesting woodland birds, especially warblers, park at the large parking lot on the left side of the road 0.8 mile from the entrance. On foot, follow the sign to the sailing club north of the main road. Continue past the sailing club, and just before reaching the dock, take the trailhead on the left into the woods. This trail winds through mature oak-hickory forest and eventually returns to the main road. American Redstarts are abundant along the trail in summer, and Ovenbirds, Scarlet Tanagers, and Blue-gray Gnatcatchers are common summer residents. This is the best place in the area to find nesting Cerulean Warblers, which can be located by listening for the buzzy songs of the males high in the treetops. Prothonotary Warblers sometimes nest in snags near the water's edge. Louisiana Waterthrush, Acadian Flycatcher, and Worm-eating Warbler have been found in summer, but are not seen regularly.

Another area worth visiting here is the Macbride Raptor Center. Follow the entrance road to the main parking lot, 1.3 miles from the entrance. Turn right onto a gravel road (closed to vehicles in winter) and continue 0.3 mile to a parking area. From here it is a short walk to the center. A joint project of the University of Iowa and Kirkwood Community College, the Macbride Raptor Project provides rehabilitation for injured and orphaned birds of prey and presents educational programs to the public. Many permanently disabled eagles, hawks, falcons, and owls are on display year-round at the center. There is also a bird blind nearby, where common woodland birds may be observed at close range visiting the well-stocked feeders.

Lake Macbride State Park: After leaving Macbride Nature Recreation Area, continue north on Mehaffey Bride Road 0.5 mile to the south unit of Lake Macbride State Park. This 2,180-acre park features a large man-made lake and miles of hiking trails through mature forest, brushy fields, and restored prairie. There are many parking areas from which to view the lake. Diving ducks, gulls, and other water birds can be found on the lake in early spring and late fall. Common Loons, Horned Grebes, Bonaparte's Gulls, and Common, Red-breasted, and Hooded mergansers are regular migrants, and Eared Grebes are sometimes seen. Ospreys are often seen patrolling the lake in April through May and again in September and October.

Turn right at 200th Street and proceed over a small arm of the lake to a parking lot (0.3 mile). The shallow backwaters to the south sometimes attract dabbling ducks,

shorebirds, and herons during spring and fall, and Wood Ducks are often seen. Return to Mehaffey Bridge Road and turn right. Continue 0.2 mile and turn left onto a dead-end road which parallels the south shore of the lake. This road offers views of the lake, and a backwater where herons and Wood Ducks can be found is located on the south side of the road. Back on Mehaffey Bridge Road, continue across the causeway over the lake to a "T" intersection. Turn left and proceed 0.3 mile on Cottage Reserve Road, then turn right and continue 0.5 mile to a parking lot. The boat ramp here provides a nice view of the north arm of the lake. A sailboat storage enclosure is located west of the parking lot. Prairie Warblers have been found on the brushy hillside south of this enclosure every summer since 1994. The hillside is very densely overgrown, and patience and determination are needed to view the birds. They are most easily located between mid-May and mid-July, when the male Prairie Warbler repeats his ascending, buzzy "zee-zee-zee" song. Occasionally the birds are observed farther south on the east side of the road where there is much less brushy growth. Nesting Blue-winged Warblers are often present south of the enclosure as well, and Long-eared and Northern Saw-whet owls are sometimes found during winter in the conifer grove along the west side of the road.

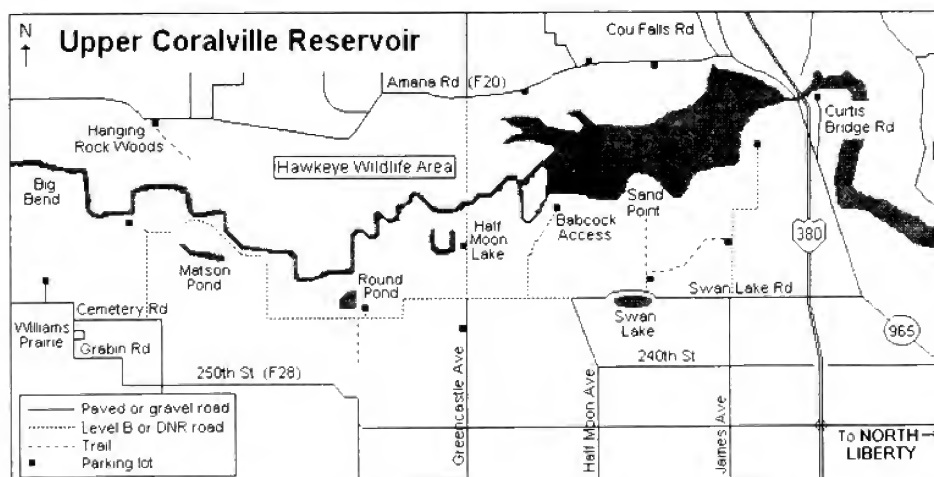
Return to Cottage Reserve Road and turn right. Proceed 0.4 mile, and before reaching the stone gates at the entrance to the residential area, veer right and continue a short distance to a parking lot. A few Yellow-throated Warblers nest in this area, and are sometimes found in the large sycamore trees near the entrance gates. More often, however, they are found near two white pine groves along the trail to the north. The trail leads 1.5 miles to the parking lot near the sailboat storage enclosure. Cerulean Warblers are sometimes heard along the trail, and Northern Parulas have been found infrequently in the sycamores. Ruby-throated Hummingbirds and Purple Martins are often seen near the residential area.

Return to the "T" intersection with Mehaffey Bridge Road and continue straight (east) 0.1 mile to a road on the right. This road parallels the shore and offers views of the lake. Continue east on Mehaffey Bridge Road. At the outskirts of Solon (2.3 miles), turn left at Racine Avenue and proceed 0.3 mile, where a parking lot marks the east end of a 5-mile recreational trail from Solon to the north unit of Lake Macbride State Park. For most of its length the trail follows the north shore of the lake and passes through brushy fields, small woodlots, conifer plantings, and mature woodland. Some of the interesting breeding birds which can be found along the trail include Bell's Vireos, Orchard Orioles, Yellow Warblers, American Redstarts, and Green Herons. In October, the brushy areas along the east end of the trail can be excellent for sparrows, including Harris's and Lincoln's.

Continue into Solon; turn left at Chabal Street, proceed two blocks to Highway 382, and turn left. Drive west 1.1 miles, where two ponds are located on the south side of the highway. Be sure to pull completely off the highway onto the shoulder. During spring, these ponds are a good place to observe marsh ducks. Continue west 1.8 miles and turn left onto Opie Avenue. This dead-end road leads south to a parking lot which offers a view of the lake and another access to the Solon-Lake Macbride recreational trail. Return to Highway 382 and drive west another 1.1 miles; turn right into the Twinview Heights subdivision and then immediately make another right turn onto Meadow Drive. Follow Meadow Drive as it turns into Lakeside Drive, and at Wildwood Drive (0.5 mile) turn right onto a gravel road. At the fork, turn left and follow the road a short distance to a boat ramp which provides an expansive view of the reservoir. In early spring and late fall this can be an excellent place for viewing Bald Eagles, diving ducks, grebes, loons, gulls, and other water birds.

Return to Highway 382, turn right (south) and proceed to the north unit of Lake Macbride State Park (0.4 mile). The west end of the Solon-Lake Macbride recreational trail is located just inside the entrance to the park. Stop at the information kiosk just ahead to pick up a map of the park. The north unit of the park is heavily wooded and features several hiking trails. Typical breeding birds of the mature oak-hickory woodland here include Wood Thrush, Scarlet Tanager, and Ovenbird. Yellow-throated Warbler and Northern Parula have been found occasionally in the row of sycamores along the road to the beach. The Coralville Reservoir boat ramp offers a view of the reservoir.

Sandy Beach Recreation Area: After exploring the park, return to Highway 382 and backtrack towards Solon. Turn left at Ely Road (County Road W6E, 2.1 miles) and proceed north. Turn left at 140th Street (1.0 mile), and continue west and then south on Sandy Beach Road to Sandy Beach Recreation Area (3.3 miles). The wide shoulder of the road and the parking lot at the beach offer excellent vantage points for viewing the reservoir. In spring and fall during times of low water, there may be mudflats which attract shorebirds. In September, marshy vegetation may be checked for American Bitterns and Nelson's Sharp-tailed and Le Conte's sparrows. Continue northwest on Sandy Beach Road to Shueyville (4.3 miles). At the four-way stop, turn left onto 120th Street (County Road F12) and drive west to Highway 965 (1.5 miles). Turn left and drive south 2.4 miles to Cou Falls Road.



Hawkeye Wildlife Area: Hawkeye Wildlife Area is a 13,510-acre federal area that is managed by the Iowa Department of Natural Resources. It encompasses the upper flood basin of the reservoir, extending for nine miles from Highway 965 almost to the Johnson-Iowa County line. To reach the north side of the wildlife area, turn right onto Cou Falls Road, and when it veers right after 0.2 mile, bear left onto Amana Road (County Road F20). There are many parking areas along Amana Road from which you may view the wetland area to the south or explore the wooded ridge to the north. Drive west on Amana Road 0.3 mile to a parking lot on the left, across from the Hawkeye Wildlife Area headquarters. The parking lot offers a view of the vast floodplain to the south. Waterbirds and raptors are often seen from here but are usually very far away.

Continue 0.8 mile to another parking lot on the right. North of the parking lot over a small rise is a clearing where American Woodcocks display at dusk and dawn

during April and May. Just east of the parking lot is a grove of conifers where Northern Saw-whet Owls are often found during winter. Search the branches carefully and check the ground for pellets and droppings. Once located, saw-whet owls are normally quite tame and may be viewed at close range.

Continue west 0.4 mile to another parking lot on the south side of the road. Except in very wet years, Savannah Sparrows nest in the vegetation south of the road here. This is a good location to listen for Whip-poor-wills calling at dusk from the wooded bluffs during the late spring and summer.

Continue along Amana Road 0.7 mile to Greencastle Avenue. Northwest of this intersection on the hillside is a small grove of cedars which sometimes attracts wintering Northern Saw-whet Owls.

Hanging Rock Woods: Continue west on Amana Road 4.1 miles to a parking lot on the left. The area south of the road is a large wooded ridge which juts out into the surrounding bottomland. The southern tip of the ridge is private land, but the northern part of the ridge and most of the surrounding bottomland is public. A trail leads through the woods along the ridge top. This is an excellent location for spring warblers, vireos, thrushes, and other migrants. During the summer, Cerulean and Kentucky warblers can be found, and Prothonotary Warbler, Pileated Woodpecker, Acadian Flycatcher, and Brown Creeper have been found in the bottomland forest at the end of the ridge.

Return to Highway 965 and turn right (south). Where the highway crosses the reservoir (0.5 mile), you may want to pull off onto the wide shoulder and scope the area to the west. Continue south 1.8 miles to Curtis Bridge Road on the left. The boat ramp at the end of Curtis Bridge Road (0.8 mile) offers another view of the reservoir. Continue south on Highway 965 1.6 miles, then turn right onto Swan Lake Road.

James Avenue: To reach the south side of Hawkeye Wildlife Area, drive west 1.3 miles and turn right onto James Avenue. The buildings on the right are the former wildlife area headquarters. The plantings and the small creek behind the buildings attract warblers and other passerines during migration. Continue to the second parking area on the left (0.5 mile). From late April to early May and during October, the hedgerows along the road and in the nearby fields can be excellent for migrating sparrows, including Harris's, Lincoln's, White-crowned, and rarely Clay-colored. A trail leads west from the parking lot past several ponds and a marsh to just north of the Sand Point parking lot. James Avenue continues 1.5 miles through fields and timber to a parking lot, where you may park and walk west for a view of the reservoir.

Swan Lake: Return to Swan Lake Road and proceed west 0.9 mile to a pullout on the left overlooking Swan Lake. During migration, scan the lake for waterfowl, grebes, shorebirds, terns, and all six swallow species.

Sand Point: Just past the Swan Lake pullout, turn right onto the Sand Point access road and continue 0.1 mile to a parking area on the right. East of the parking lot is a small pond which harbors nesting Wood Ducks. The woodlot and plantings between Swan Lake Road and this parking lot can be good for warblers and other passerines during migration. The Sand Point Road is closed to vehicles beyond the parking lot, but you may walk on the road approximately one mile to Sand Point. (This area is a wildlife refuge and is closed to the public from 10 September to 25 December). A spotting scope and rubber boots are recommended. During the walk, you may hear resident Lark Sparrows singing from the trees and Horned Larks in the fields. Farther out near the point, Savannah Sparrows nest in the low vegetation and

American Pipits may be found during migration. Sand Point itself provides a panoramic view of the area, but the quality of the birding depends on the water level. In very wet years the entire area may be under water, but when the water is low or receding, typically in late summer, mudflats provide habitat for thousands of shorebirds. In late summer and early fall, you should also see large numbers of American White Pelicans, Double-crested Cormorants, Great Blue Herons, and Great Egrets, as well as various gulls, terns, and ducks.

Return to Swan Lake Road, turn right, and continue 0.8 mile to Half Moon Avenue. A good location for Eastern Screech-Owls is located along Half Moon Avenue 0.2 mile to the left. To hear the owls, park alongside the road before dawn or after dusk and softly play a tape of the screech-owl's call. The tape may also rouse nearby Barred or Great Horned owls.

Babcock Access: Past Half Moon Avenue, Swan Lake Road is dirt for the next 1.1 miles and may be impassable during wet weather. (If so, take a detour by driving south on Half Moon Avenue, then west on 250th Street, then north on Greencastle Avenue back to Swan Lake Road.) If the road is passable, continue west for 0.4 mile, and then turn right onto the Babcock access road. Continue 1.0 mile to a parking lot at the end of the road. When the water level is right, this is the single best birding location on the Coralville Reservoir. You should see many of the same species that are visible from Sand Point. Resident cormorants are present from spring to fall, and some American White Pelicans linger through the summer. Dead trees to the north and west provide roosting sites for many waterbirds and raptors. During late fall and early spring this is a good place to view Bald Eagles. In late summer a walk eastwards towards Sand Point may provide views of many shorebirds; rubber boots and a spotting scope are recommended.

Greencastle Avenue: Return to Swan Lake Road and continue west for 0.7 mile to Greencastle Avenue. Turn right and drive north 0.6 mile to a parking lot on the left. The parking lot overlooks Half Moon Lake (also called Crescent Pond), which can be excellent for waterfowl and shorebirds during migration. In March, Greater White-fronted Geese and many species of ducks can be found here. This is an excellent place to view raptors, including Northern Harriers, Rough-legged Hawks, and Bald Eagles from late fall through early spring. Peregrine Falcons and Merlins are sometimes seen in this area during migration when shorebirds are present. In spring the cattails on both sides of the road may harbor marsh birds such as American Bittern, Sora, Virginia Rail, and Marsh Wren. You can continue north on Greencastle Avenue 0.1 mile to a "Road Closed" sign.

Turn around and drive south on Greencastle Avenue 1.0 mile (past Swan Lake Road), where in most years there is a small pond divided by the road. This is called the Gunclub Pond, and you should see teal and Northern Shovelers here during spring, and Wood Ducks and Green Herons during the summer months. Continue 0.1 mile to a parking lot on the right. In the area to the west of this parking lot are many scattered Eastern Red Cedar trees. During the winter months these cedars often harbor roosting Long-eared Owls and, occasionally, Short-eared Owls. To locate the owls, check the ground beneath the cedars for pellets and whitewash. Often the owls are not seen until they flush from the trees and fly a short distance away. Please keep disturbance to the owls at a minimum, and be cautious in this area during deer hunting season.

Round Pond: Return to Swan Lake Road, turn left and drive west. This low-maintenance gravel road, which is maintained by the DNR, continues more than six miles through a mixture of cultivated fields, wet areas, and small woodlots. In fall

there are many weedy areas along the road to check for sparrows. Round Pond (1.5 miles) is usually not very productive for birding, but may attract a few ducks and shorebirds during spring migration. Just past the Round Pond access road, a trail leads south to a grove, creek, and two ponds. This is a nice area to walk for sparrows, warblers, and other migrants, and the ponds may harbor ducks and other marsh birds. Continue driving west. When you arrive at the "T" intersection (3.4 miles) turn right and drive 0.1 mile to a parking lot. During the early summer you may wish to search for nesting birds in the bottomland forest to the west. Walking can be difficult, but birds that have been found include Pileated Woodpecker, Brown Creeper, and Prothonotary and Yellow-throated warblers, the latter in the sycamore trees several hundred yards northwest of the parking lot.

Return to the intersection, turn right and continue 1.2 miles to Cemetery Road. Along the way, listen for Lark Sparrows, Savannah Sparrows, and Dickcissels. The extensive grassy fields along this road sometimes harbor wintering Short-eared Owls, which are best viewed from Cemetery Road at dawn or dusk.

Williams Prairie: At Cemetery Road, turn right and drive west 0.8 mile to Grabin Road. Turn left and drive 0.2 mile to Williams Prairie, a small wet prairie on the left owned by The Nature Conservancy. In some years, Sedge Wrens have nested here. Continue on Grabin Road 1.3 miles as it zig-zags south and east to 250th Street (County Road F28). Drive east 9.5 miles to Highway 965 in North Liberty.

Jolly Roger Recreation Area: Turn left and drive north 0.5 mile to Scales Bend Road. Turn right and proceed north 2.0 miles, where an unmarked drive and parking lot are located to the right. This privately-owned woodland, known as Sherwood Forest, adjoins public property along the lakeshore. The owners welcome hikers and maintain a network of trails. Pileated Woodpecker, Acadian Flycatcher, Veery, and Cerulean Warbler have been found here during summer, but should not be expected on most visits. Continue north on Scales Bend Road 1.1 miles to where the road makes a sharp right turn. The land to the west and north of the road here is public, and the brushy hedgerows can be productive for migrant sparrows and other land birds in spring and fall. Continue 0.4 mile to the Jolly Roger Recreation Area campground and marina. The boat ramp here provides another view of the reservoir. When you have finished scoping the lake, return to Highway 965 and continue south. Turn left at Zeller Street in North Liberty (1.0 mile), then right at Dubuque Street (0.8 mile), and drive 5.3 miles to return to the starting point at the intersection of Dubuque Street and Interstate 80.

85 Whitman Avenue, North Liberty, IA 52317-9677

SPRING BIRD COUNT--1998

ANN BARKER

The 1998 Spring Bird Count was held on 9 May. A total of 24 counties participated (Table 1), up six from 1997 (Petersen and Dinsmore 1998). Counties new to the count in 1998 were Appanoose, Benton, Black Hawk, Buchanan, Butler, Linn, Mills, Page, Story, and Washington. Four counties (Cedar, Jefferson, Warren and Woodbury) that had participated in 1997 did not do so this year.

Eleven counties reported 100 or more species (Table 1). Louisa again led the way with 163, and Fremont followed closely with 142. Clay (125) and Clinton (124) were third and fourth. The average number for all counties was 85.5. For the second year in a row, species totals were generally lower, probably due to the cool spring that may have delayed migration somewhat.

Table 1. Count statistics for 1998 Iowa spring bird count.

County	Number of:			Hours				Miles		
	Species	Obs.	Parties	Foot	Car	Feeder	Owling	Foot	Car	Owling
Allamakee	111	3	1	5	9	0	0	4	120	0
Appanoose	89	17	7	10.5	10	1	0	10.5	263	0
Benton	63	2	1	3.5	1	0	0	1.5	25	0
Black Hawk	6	2	1	0	1	0	0	0	27	0
Boone	106	8	3	13	5	2	1	8	110	1
Bremer	74	20	4	8	1	0	0	6	50	0
Buchanan	39	2	1	0	2	0	0	0	30	0
Butler	33	2	1	1.5	1.5	0	0	2	32	0
Clay	125	4	2	3.5	14	0	0	1.5	288	0
Clinton	124	7	4	11.7	19.3	0	5.5	11.5	256	88
Dallas	103	4	2	10	12	0	0.3	12	250	0
Des Moines	54	2	1	2	0	0	0	3	0	0
Fremont	142	3	1	2	10.5	0	1	1	186	31
Jackson	110	2	1	9.4	6	0.1	0.5	6	195	5
Johnson	113	6	5	13.5	10.3	0	0	8.5	173	0
Linn	84	2	1	3.5	10.5	0.5	2	3	115	27
Louisa	163	2	1	5.5	8	0	1	5.5	311	2
Mills	50	4	1	1	3	4	0	0	38	0
Muscatine	42	1	1	3	0	0	0	1	0	0
Page	60	1	1	3	6	0	0	3	62	0
Polk	92	2	1	5	8.8	0	0	2.5	144	0
Scott	105	6	4	15	16	1	0	9	258	0
Story	100	7	4	6.3	16	0.8	0	5.5	219	0
Washington	65	1	1	1.5	11	0	0	2	107	0
totals	222	110	50	137.4	181.9	9.4	11.3	107	3259	154
average	85.5	4.5	2	5.7	7.6	0.4	0.5	4.5	135.8	6.4

Once again, the strongest geographical coverage was from east-central Iowa, with seven counties represented. Other sections of the state and their coverage were: northwestern-1, north-central-1, northeastern-4, central-4, southwestern-3, south-central-1, and southeastern-3. No counties from west-central Iowa participated this year.

Table 2a. Spring Bird Count Data, 1998.

COUNTY	Co Lo	Pi Bi Gr	Am Wh Pe	Do Cr Co	Am Bi	Le Bi	Gr Bl He	Gr Eg	Ca Eg	Gr He	BC Ni He	Tu Vu	Sn Go	Ca Go	Wo Du	Ga	Am Wi	Ma
Allamakee		1	1				22	7		1		56		40	58			5
Appanoose			14	7			2			3		14		34	3			
Benton				1			2			1		1		4	3			
Black Hawk	1			1						1								
Boone		6		54		1	1	2			1	9	1	21	11			15
Bremer							6			1		16		232		2		27
Buchanan							1					1						1
Butler			1	7				1						20				4
Clay		13	329	87		1	5			1	2	13	9	355	26	31	1	106
Clinton		18	9	328	5		43	12	2		1	43		57	39	26		78
Dallas		4		6	1		4				1	48		56	16	4		12
Des Moines							3					8		1	7			
Fremont		85	210	165			45	1	1	1	5	96	80	317	56	76	6	48
Jackson	1	19		9	2	1	37			3		40		244	120			13
Johnson		4	52	10	1		17			1		12		42		3	4	26
Linn	1			1				1		2		31		105				56
Louisa		32	140	85			57	11	8		3	147	5	225	82	6		33
Mills				25				8				2			1			7
Muscatine							1					1		2	4			
Page				15			1					1		4		6		
Polk		1	7				5					20		51	2			14
Scott		1		25	1		22			1		3		40	21			78
Story	3	2		14	1		6					8	29	104	10	2	1	14
Washington		1		1			8	1		1		22		45	5			11
No. Individuals	6	187	763	841	11	3	288	44	11	17	13	592	124	1,999	464	156	12	548
No. of Counties	4	13	9	18	6	3	20	9	3	12	6	22	5	21	17	9	4	18

COUNTY	Bl Wi Te	No Sh	No Pi	Gr Wi Te	Ri Ne Du	Le Sc	Ho Me	Ru Du	Os	Ba Ea	No Ha	Sh Ha	Co Ha	Re Sh Ha	Br Wi Ha	Re Ta Ha	Am Ke	Gr Pa
Allamakee	2		3				2			5			3	1	2	9	1	
Appanoose	6	14				3						2	1		1	3	2	
Benton												1		1	2	1		
Black Hawk												1						
Boone	68	6		2		2						2	5		3	2	3	2
Bremer	41	10				3			1	2	1							
Buchanan																3	1	
Butler	20	10														1		
Clay	118	31		3	1	6		29				1	1			14	2	1
Clinton	16				1	1		5	1	2	2		1			15	2	
Dallas	13					3	2				1				3	5	22	
Des Moines													1			3		
Fremont	140	162	1	22	2	22		26		1						1	2	
Jackson	14	1					5			3		1		1		7	1	
Johnson	46	24		8	1	3		9	1			4	1		2	12	2	
Linn	8	1						7	1			2			3	3		
Louisa	130	28					2			2		2	3	1	29	32	8	
Mills	8																	
Muscatine																		
Page	5															3	1	
Polk	56	11														6	2	
Scott	4									1						6	14	
Story	87	7	3			4		1				1	1		6	6	18	5
Washington	8	3										3			1	7	7	
No. Individuals	790	308	7	35	5	47	11	77	4	13	6	21	17	4	52	141	88	8
No. of Counties	19	13	3	4	4	9	4	6	4	5	4	12	9	4	10	21	16	3

The species total was 222, down from 234 last year, and further down from 244 in 1996. One hundred ten people participated, down considerably from the 134 who participated last year. Bremer County had the most observers, with 20, and Appanoose was close behind with 17. Half of the counts had only one or two observers, suggesting that coverage was thin in a number of locales.

Table 2b. Spring Bird Count Data, 1998.

COUNTY	Ri Ne Ph	Wi Tu	No Bo	Vi Ra	So	Am Co	Sa Cr	Se Pl	Ki	Gr Ye	Le Ye	So Sa	Sp Sa	Se Sa	Le Sa	Pe Sa	Am Wo	Ri Bi Gu
Allamakee	1	6		2	16		1		7	1							1	
Appanoose	2	2				36			7									7
Benton	1								1									
Black Hawk												1						
Boone	11	2			1	55			26		2							
Bremer	18	2			2	50	1		14				5					19
Buchanan	1		1			1												
Butler						40			1		2		2			4		3
Clay	24	2			4	75			62	4	27		4	7	14	1		136
Clinton	27	4		2	6	225	5	2	31					1			1	320
Dallas	22				1	55			10				2					
Des Moines	1	9																
Fremont	26	6	8	1	3	3,160			39	1	65	1	15	12	110	25		6
Jackson	1	3		1	6	25	2	2	9	1	3		1			10		5
Johnson	9	3	1		2	425			35		18		2			16		25
Linn	44	9				35			15				1					7
Louisa	48	16	4	2	12	225		8	51	2	25	8	4	3	26	10	2	3
Mills	1		1						4									5
Muscatine																		
Page	15		2			2			6				1					
Polk	6					12			19				2					80
Scott	9	6			1	5			23	1		3	3				2	34
Story	19				4	146			17	1	3	1				3		1
Washington	14	1	1		1				10									
No. Individuals	300	71	18	8	59	4,572	9	12	367	11	145	14	42	23	170	49	6	651
No. of Counties	21	14	7	5	13	17	4	3	20	7	8	5	12	4	5	5	4	14

COUNTY	He Gu	Ca Te	Fe Te	Bl Te	Ro Do	Mo Do	Ye Bi Cu	Gr Ho Ow	Ba Ow	Co Ni	Wh Po Wi	Ch Sw	Ru Th Hu	Be Ki	Re He Wo	Re Be Wo	Ye Be Sa	Do Wo
Allamakee		1			41	50		2	3		4	40	2		16	14	9	13
Appanoose	3	5	8		12	3				2	3	4		2	2	5		3
Benton					2	1			1					1	1	1		2
Black Hawk																		
Boone					33	15			1			11	1	3	6	7	9	
Bremer	1		3		15	30									4	7		10
Buchanan					1	1								1	1			1
Butler																		
Clay		1	16	2	37	83		1				6		1	13	4	4	12
Clinton	5			2	65	65		4	10	3	5	66	2	3	43	15		15
Dallas					14	148						23			22	17		15
Des Moines						3			4		4	1	1		4	5		5
Fremont				65	25	127		2	3	1	24	46		2	14	35		4
Jackson	2				21	25	1	3	1	4	1	18		8	11	5	2	6
Johnson				3	4	32		1	3			3		1	29	4	1	2
Linn			5		31	30			3			17		1	7	8		2
Louisa			4	3	52	250	3	6	35	17	18	350	15	3	83	11		32
Mills					2	10							2		2	3		6
Muscatine							1								5	3		2
Page						57			2		15				5	7		1
Polk		4	3		14	38		1		1		16			5	8		12
Scott			4		77	81	2		1			38		4	25	6		12
Story					47	41						15	1	4	13	7		12
Washington					20	36						20			27			4
No. Individuals	11	11	43	75	513	1,126	7	20	65	30	59	689	24	34	338	172	25	171
No. of Counties	4	4	7	5	19	21	4	8	11	7	7	17	7	13	22	20	5	21

Curiously, no species were reported from all 24 counties (Table 2). This is probably due to the fairly limited coverage in a few counties. Common Yellowthroat was found in 23 of the 24 counties, and 12 species were found in 22 of the 24, with an additional 12 species seen in 21 counties. A total of 35 species were found in only one county (Table 3). Louisa County had 11 of these near misses and Fremont had

Table 2c. Spring Bird Count Data, 1998.

COUNTY	Ha Wo	No Fl	Pi Wo	Ea Wo Pe	Le Fl	Ea Ph	Gr Cr Fl	Ea Ki	Lo Sh	Be Vi	Ye Th Vi	Bl He Vi	Wa Vi	Re Ey Vi	Bl Ja	Am Cr	Ho La	Pu Ma
Allamakee	3	12	2		1	18	1	3			2		44	1	17	18	8	34
Appanoose		4				2	2	20	1				4		5	8		6
Benton		1				1	2	3				1	1		2	1		
Black Hawk													1					
Boone	5	8			1	9	3	5					1	1	19	13	3	6
Bremer		1						1							42	52		
Buchanan											1		1		1	1		
Butler						1												
Clay	5	16			1	2	1	10			2	2	4	1	44	56	4	4
Clinton	3	14	1	5		9		8	1	1	7	2	16		55	116	5	3
Dallas	2	13		1	1	5	2	24	2				3	1	104	22		70
Des Moines	1		5			4	3						1	4	25	36		
Fremont	1	4			2	6	5	13	2	6			12		56	20	3	25
Jackson	2	5			4	3	3	1			2		10	2	26	10	1	32
Johnson	2	7				1	2	9					10	1	70	50	4	3
Linn		3				2		9			1		15		105	32		
Louisa	11	44	3	6	4	21	18	41	2	2	12		44	8	95	280	25	35
Mills	2	2				1							1		11			
Muscatine		1					1	2			1				4	3		
Page		3				2		5						1	48			
Polk	3	7			2	6	3	17			3	3	11	3	22	20	2	53
Scott	3	10			2	3	1	5			2	1	34		54	120	5	36
Story	2	4			2			7					6	1	57	81		23
Washington	1	8				6	1	10							33	30	1	2
No. Individuals	46	167	11	12	20	102	48	193	8	9	33	9	219	24	895	972	61	332
No. of Counties	15	20	4	3	10	19	15	19	5	3	10	5	19	11	22	21	11	14

COUNTY	Tr Sw	No RW Sw	Ba Sw	Cl Sw	Ba Sw	Bl Ca Ch	Wh Tu Ti	Br Nu	Ca Wr	Ho Wr	Se Wr	Ma Wr	Ru Cr Ki	Bl Gr Gn	Ea Bl	Ve	Sw Th	Wo Th
Allamakee	295	47	60	3	22	24	16	5		22		1		40	7		2	16
Appanoose	4	1		12	8	6	6	2		3					6		1	1
Benton	1					1	1			8				3	1			
Black Hawk																		
Boone	12	21		4	17	12	9	8		36	1	2	3	18	18		1	
Bremer	61	1			11	21		2		8	1	1						
Buchanan					1	1				1								
Butler				20							1	2						
Clay	761	6	25	28	385	16		4		13		4	14		1			
Clinton	30	48	28		86	33	19	9	2	114		1		23	12			6
Dallas	51	3	34	25	44	20	5	2		44	1	1		3	32			1
Des Moines	3				1	6	2	2		3	7			4	2			
Fremont	20	45	375	80	140	8	2	8	1	131	1	4	2	4	7		6	4
Jackson	515	22	14		1	6	4	5		7	2	5	1	11	3	1		3
Johnson	11			32	26	20	7	3		41				2	8	1		
Linn	8			350	12	10	4	3		21				2	12			
Louisa	250	80	40	500	180	18	30	25	6	200	3	8	55	41	66	8	10	8
Mills					3	6	5	4		4					4			
Muscatine					4	1	2			2				3	2			
Page		4		20	33	3	3			48			1		2			
Polk	7	6	7	43	14	18	9	9		57				9	5			5
Scott	31	31	1	18	32	50	16	10		84				4	7		7	10
Story	26	4			59	25	4	15		43		4			6			
Washington	1	15			43	1		5		7					14			
No. Individuals	2,087	334	584	1,135	1,118	309	143	123	9	897	17	33	76	168	243	10	27	54
No. of Counties	18	15	9	13	20	22	18	19	3	22	8	11	6	15	20	3	6	9

nine. Eight other counties had at least one. Another 20 species were found in only two counties (Table 3). As in 1997, waterfowl (10 species), shorebirds (11 species), and warblers (7 species) made up half of the species that were found in only one or two counties. Some of the more surprising species in this category included Upland Sandpiper, Stilt Sandpiper, Franklin's Gull, Eastern Screech-Owl, Olive-sided

Table 2d. Spring Bird Count Data, 1998.

COUNTY	Am Ro	Gr Ca	No Mo	Brt Th	Eu St	Ce Wa	Bl Wi Wa	Go Wi Wa	Te Wa	Or Cr Wa	Na Wa	No Pa	Ye Wa	Ma Wa	Ye Ru Wa	BT Gr Wa	Bl Wa	Ye Th Wa
Allamakee	141	14		5	61		8	3	16		8	2	50					
Appanoose	7	4		8	6				6		3	2			5	3		
Benton	1	1		1	1			2	1		2		1		6	1		
Black Hawk																		
Boone	33	2	1	11	48	7			3		1	2			10			2
Bremer	66	2		6	16		1				1		1	1	7			
Buchanan	1	1			1				1			1						
Butler				1						1								
Clay	184	7		55	175				17	5	1	9			198		1	
Clinton	212	49		28	239	16	2		1		17		11		22		2	
Dallas	62	19	2	32	100				2	4	6	2	6		24	1		
Des Moines	9	5		2	9										5			
Fremont	69	10		64	4	1			1	1	1		4	1	16			
Jackson	51	11			8	2	1								4	8		
Johnson	74	10	2	15	200	2		2	1		11		2		8	1		1
Linn	130	6		17	184	10	1				1		3		2			
Louisa	390	110	2	140	400	60	15		50	3	130	10	80	22	6	3	2	
Mills	11			5	2													
Muscatine		1		1			1		3				1		1	1		
Page	71	10		29	49								2		3			
Polk	90	11		17	87	19			8	6	5	3	3		4			2
Scott	120	22		22	192	6	1		28		29	1	16		19	2	1	
Story	199	8		22	191	13			4		1				28			
Washington	90			6	55										4			
No. Individuals	2,011	304	7	487	2,028	136	30	7	125	32	221	24	189	24	372	20	6	5
No. of Counties	21	21	4	21	21	10	8	3	14	6	15	9	14	3	19	8	4	3

COUNTY	Pa Wa	Bl Po Wa	Ce Wa	Bl Wh Wa	Am Re	Pr Wa	No Ov	Co Wa	Co Ye	Sc Ta	Ea To	Ch Sp	Cl Co Sp	Fi Sp	Ve Sp	La Sp	Sa Sp	Gr Sp
Allamakee			1	6	94	6	21	1	10	4	23	64		11	2		17	
Appanoose					1		2	1	8	3	2	7		2				6
Benton	1			1		1			1			1		1				
Black Hawk																		
Boone	4	1		1	2			1	5		4	45		13	2		1	8
Bremer				1					2			52		2			3	
Buchanan									1			1		1				
Butler	3				1				1		1							
Clay	32	2		4			1	5	3	1		136	3	15	25		25	1
Clinton	9	3		1	29	2		4	22		10	86		56	1	1	1	2
Dallas	4				2	1	1	1	20	1	8	36	1	18	4	7	1	1
Des Moines								5		3	2	1	5	3				
Fremont								4	1	12	2	27	32	6	1	1	16	19
Jackson					5	2	3	1	10		15	7		9	1			2
Johnson	1		1		10			2	11	1	4	41	1	2	3	6	3	
Linn					10	1			9		12	34		17		2	2	
Louisa	6	5	3	7	32	8	20	5	30	3	50	60	3	50	13	22	18	50
Mills				1					2		1	1		1				
Muscatine						4			3		1	3		1				
Page									10	2	6	2		5				
Polk					7		1	1	7			34		1	2			4
Scott	5				11		3	3	30	1	8	41		4	3		4	3
Story		1							15			46	1	1	6		1	
Washington	1								1			3		1	1	2	1	
No. Individuals	66	12	5	22	204	25	61	26	216	20	173	737	9	220	64	41	93	96
No. of Counties	10	5	3	8	12	8	10	12	23	10	16	22	5	22	13	7	13	10

Flycatcher, Acadian Flycatcher, Willow Flycatcher, Chestnut-sided Warbler, Louisiana Waterthrush, and Wilson's Warbler.

The totals for some normally common species were quite low; only 18 Northern Bobwhite in 7 counties, 7 Yellow-billed Cuckoos in 4 counties, 30 Common Nighthawks in 7 counties, 12 Eastern Wood-Pewees in 3 counties, 15 Chestnut-sided

Table 2e. Spring Bird Count Data, 1998.

COUNTY	So Sp	Li Sp	Sw Sp	Wh Th Sp	Ha Sp	Wh Cr Sp	No Ca	Ro Br Gr	In Bu	Di	Bo	Re Wi Bl	Ea Me	We Me	Ye He Bl
Allamakee	127		22	18		2	9	39	4		14	680	24	2	26
Appanoose	3				2	3	6	5	2	1	13	26	15	10	
Benton	1			30			2	2	2			2	1		
Black Hawk															
Boone	12			11			11	15	4		5	550	7	15	44
Bremer	13			33	2	3	25	3		1	1	257	1	1	2
Buchanan				2			1	1	1		1	1	1		
Butler	1	2	1	2	2	2		2							6
Clay	35	4	26	71	32	3	7	10		1	7	895	1	13	205
Clinton	39		2	20		20	70	29	17	2	6	1,279	26	3	93
Dallas	33		4	13	4	5	26	28	2		6	284	25	22	8
Des Moines	3					2	12		2			52	1		
Fremont	25	4		4	26	2	22	17	2	9	15	550	11	10	49
Jackson	39		7	4		3	18	12	1		6	780	30		19
Johnson	41		4	29		4	52	12	1	1	4	300	7	6	
Linn	32			29		4	51	23	1	2	3	500	40	5	4
Louisa	66	21	3	60		110	150	30	40	20	12	500	45	11	6
Mills	1			1	5	2	10	2	2			24	1		
Muscatine	3			1		4	4	1				8			
Page	20			1		1	38	4	3	34	12	402		88	
Polk	33			9		3	30	8	7		3	130	8	10	2
Scott	65			49		17	136	29	5	2	1	244	17	3	1
Story	63		6	31	6	17	42	10	2	4	11	477	2	21	5
Washington	3					1	10	12		5		320	32		
No. Individuals	658	31	75	418	81	208	732	294	98	82	120	8,261	295	220	470
No. of Counties	22	4	9	20	9	20	22	22	18	12	17	22	20	15	14

COUNTY	Co Gr	Gr Ta Gr	Br He Co	Or Or	Ba Or	Ho Fi	Am Go	Ho Sp
Allamakee	106		87	2	59	43	106	185
Appanoose	16		7	2	4	4	12	16
Benton	1		1		2		1	1
Black Hawk								
Boone	42	2	26		4	12	23	9
Bremer	91		22		4		7	14
Buchanan			1		1	1		1
Butler								
Clay	410	7	106		3	21	20	55
Clinton	545		174	2	35	34	63	213
Dallas	112		92		30	8	25	46
Des Moines	3		17				15	17
Fremont	180	44	110		14	6	120	16
Jackson	110		12		20		32	25
Johnson	73		58	1	25	9	59	250
Linn	75		27	2	14	5	54	178
Louisa	900		500	4	200	55	220	1,000
Mills	14		2		3	8	20	2
Muscatine			3		4		1	
Page	110		10		15	8	22	40
Polk	122		28	2	31	10	56	71
Scott	118		81	1	41	26	69	167
Story	198		43		12	7	59	317
Washington	75		4		14		2	90
No. Individuals	3,301	53	1,411	16	535	257	986	2,713
No. of Counties	20	3	22	8	21	16	21	21

Warblers in 1 county, 24 Magnolia Warblers in 3 counties, and 3 Wilson's Warblers in 1 county. In addition, four species of Empidonax flycatchers (all except Least) were reported on only one count, all in Louisa County. The low tallies of many of these species is probably an indication of the lateness of the migration this spring. In

addition to low totals, some notable missing species included Black-billed Cuckoo and Bay-breasted Warbler.

Table 3. Species reported on only one or two Iowa Spring Bird Counts, May 1998.

Horned Grebe	Clinton (1), Linn (2)
Eared Grebe	Fremont (1),
Greater White-fronted Goose	Clay (18), Fremont (2)
Ross's Goose	Fremont (1)
Trumpeter Swan (both introduced)	Boone (8), Louisa (6)
Canvasback	Clinton (1)
Redhead	Clay (29), Fremont (1)
Greater Scaup	Clay (1)
Bufflehead	Fremont (1),
Common Merganser	Story (1)
Red-breasted Merganser	Story (6)
Swainson's Hawk	Fremont (1)
Golden Eagle	Allamakee (1)
Peregrine Falcon	Butler (1), Linn (1)
Ruffed Grouse	Allamakee (2)
Common Moorhen	Allamakee (1), Jackson (2)
Black-bellied Plover	Bremer (1)
American Golden-Plover	Clay (15), Story (26)
American Avocet	Fremont (1)
Upland Sandpiper	Appanoose (5), Fremont (1)
Hudsonian Godwit	Fremont (1)
White-rumped Sandpiper	Fremont (9)
Dunlin	Fremont (1), Jackson (5)
Stilt Sandpiper	Fremont (2)
Dowitcher species	Benton (1), Johnson (2)
Long-billed Dowitcher	Fremont (4)
Common Snipe	Story (1)
Wilson's Phalarope	Fremont (7)
Franklin's Gull	Clay (11)
Common Tern	Clay (1)
Eastern Screech-Owl	Boone (1), Louisa (1)
Chuck-will's-widow	Fremont (3), Louisa (2)
Olive-sided Flycatcher	Bremer (1), Dallas (1)
Yellow-bellied Flycatcher	Louisa (2)
Acadian Flycatcher	Louisa (3)
Alder Flycatcher	Louisa (2)
Willow Flycatcher	Louisa (13)
Western Kingbird	Fremont (1), Polk (1)
Philadelphia Vireo	Louisa (3)
Red-breasted Nuthatch	Muscatine (1), Scott (1)
Brown Creeper	Louisa (3)
Gray-cheeked Thrush	Louisa (5), Scott (2)
Hermit Thrush	Jackson (1), Louisa (2)
Chestnut-sided Warbler	Louisa (15)

Table 3, continued

Cape May Warbler	Story (4)
Pine Warbler	Louisa (2)
Prairie Warbler	Johnson (1)
Louisiana Waterthrush	Clinton (1), Louisa (2)
Kentucky Warbler	Dallas (1), Louisa (6)
Wilson's Warbler	Louisa (3)
Henslow's Sparrow	Louisa (1)
White-winged Crossbill	Polk (1)
Pine Siskin	Boone (2), Linn (1)
Eurasian Tree Sparrow	Louisa (30)

Unlike other recent spring counts, no really rare species were reported. Probably the most unusual finds were a Golden Eagle in Allamakee County, a lingering White-winged Crossbill in Polk County and a late Ross's Goose in Fremont County.

Table 4. Compilers for Iowa Spring Bird Counts, May 1998.

County	Compiler	Address
Allamakee	Brian Collins	Minneapolis, MN
Appanoose	Bill Cummings	Centerville
Benton	Mark and Beth Proescholdt	Liscomb
Black Hawk	Mark and Beth Proescholdt	Liscomb
Boone	Karl Jungbluth	Boone
Bremer	Jill Feldkamp	Waverly
Buchanan	Mark and Beth Proescholdt	Liscomb
Butler	Mark and Beth Proescholdt	Liscomb
Clay	Lee A. Schoenewe	Spencer
Clinton	Kelly McKay	Moline, IL
Dallas	Maridel Jackson	Ankeny
Des Moines	Bill Ohde	Columbus Junction
Fremont	Ross Silcock	Tabor
Jackson	Ulf Konig	Maquoketa
Johnson	Chris Caster	Coralville
Linn	Dale and Helen Fye	Cedar Rapids
Lousia	Corey and Brian Blevins	Davenport
Mills	B. June Parks	Glenwood
Muscatine	Jerry White	Muscatine
Page	Sue Stroyls	Clarinda
Polk	Reid and Pam Allen	West Des Moines
Scott	Ann Barker	Princeton
Story	Jeanne Edwards	Ames
Washington	Edwin Lins	Washington

Even though more counties participated this year, only 11 species had more than 1,000 individuals detected this year, down from 14 species in 1997. Red-winged Blackbird, with 8,261 individuals again was the most commonly detected species. Other species with more than 1,000 individuals tallied were Canada Goose, American Coot, Mourning Dove, Tree Swallow, Cliff Swallow, Barn Swallow, American Robin, European Starling, Common Grackle, Brown-headed Cowbird, and House Sparrow. All of those except the three swallow species also had four-digit totals in 1997 (Petersen and Dinsmore 1998).

Steadily growing participation in the Iowa Spring Count will improve the reliability of the data as an indicator of the distribution and abundance of species in Iowa during the peak spring migration period. Wider coverage is highly desirable, and it is hoped that birders throughout the state will continue to contribute their efforts so that the entire state might be covered.

LITERATURE CITED

Petersen, P. C., and J. J. Dinsmore. 1998. Spring bird count--1997. *Iowa Bird Life* 68:1-8.

25368 250th Street, Princeton, IA 52768-9720 (Lostcreek1@aol.com)

FIFTY YEARS AGO IN IOWA BIRD LIFE

The March 1949 issue of *Iowa Bird Life* starts off with a lengthy article by Charles Stewart of New Albin on the Great Egret. Based on his observations of egrets along the Mississippi River in northeastern Iowa, Stewart describes their decline early in the century and their subsequent return to the state. He notes that there were no active colonies in 1948, the last one near Sabula having disappeared a few years previously. Interestingly, he said that at least in late summer, the Great Egret was the most abundant waterbird along the Mississippi River in northeastern Iowa and that it was more common than even the Great Blue Heron. The summary of the 18 Christmas Bird Counts held in Iowa in 1948 totalled 79 species. Among the better finds were five Red-breasted Mergansers at Mt. Vernon and a Prairie Falcon and Spotted Towhee at Sioux City. Only three Canada Geese and eight Bald Eagles were reported, far different from present-day counts. Apparently one of the birding issues of the late 1940s was whether to report Rock Doves. The only CBC that listed them was Newton where they were said to be living in a natural state. A note in this issue also touched on this controversy, describing a cliff-nesting colony of Rock Doves along the Iowa River at Iowa Falls.--ed.

FIELD REPORTS--FALL 1998

THOMAS H. KENT

WEATHER

This fall (September to November) was the 6th warmest in 126 years of record keeping. Precipitation was slightly above normal. August averaged a bit warmer and wetter than normal, but was cooler than normal until the 18th. September was warm and dry. October was the 4th wettest on record with rain falling in three periods: 2-5, 14-17, and 26-29. Temperatures were below normal to the 22nd and above normal after that. November was warmer than normal with average precipitation. A storm with strong west winds gusting to over 50 miles per hour in all areas of the state occurred on the 10th and it was associated with snow in northwestern Iowa and a record low barometric reading of 28.55 inches at Estherville and Spencer. The rest of the month was mild with temperatures in the 60s and 70s at the end of November.



GENERAL TRENDS

It might have seemed like a normal fall (except for the warm temperatures), but data provided by Iowa's relatively small cadre of dedicated observers proved it to be the most interesting that I have reported on. The average arrival date for 10 common fall warblers that usually arrive in August was 13 August. This average arrival date is more than a week earlier than the last three years (22, 23, and 21 August); however, in 1994 the average date was 15 August. Most of the warblers were first reported on 15 August, and most were reported early by several observers in various locations in the state, which indicates that the migration was extensive and widespread. How did so many observers (Aaron Brees, Dennis Carter, Jim and Steve Dinsmore, Mike Overton, Babs and Loren Padelford, Mark Proescholdt, Lee Schoenewe, Tom Stone, and others) know to look for warblers a week earlier than usual? Could this early migration have been predicted by looking at weather patterns? Black-and-white Warblers arrived early (5 August) and in unusual numbers. Golden-winged Warbler may have been more abundant than usual.

The most dramatic event of the season was the windstorm that swept across the state on 10 Nov and pushed Sandhill Cranes, Whooping Cranes, and Snow Geese from their normal Nebraska route into Iowa. Northern Harriers were also noted in good numbers following the storm, and the only concentrated duck migration occurred at that time.

The warm conditions following the storm and lasting through the end of the period appear to be responsible for the record late shorebird sightings (American Golden-Plover, American Avocet, Greater Yellowlegs, Stilt Sandpiper, Ruff, and Long-billed Dowitcher). December reports will extend one of these late dates and add at least two more species to this list.

Other items of interest include the large numbers of American Pipits and Golden-crowned Kinglets, success in identifying fall empidonax flycatchers and meadowlarks by song and call notes, first fall records of Smith's Longspur, and the continued presentation of useful data on hawk migration at Grammer Grove W.A. and Hitchcock N.A. Winter finches were not much in evidence. The warm November has undoubtedly postponed the arrival of many good birds for Bob Cecil's winter report.

UNUSUAL SIGHTINGS

Accidental species reported were Clark's Grebe, Ferruginous Hawk, Whooping Crane, Ruff, and Eurasian Collared-Dove. The dove includes a new record as well as continued presence of this species at Grinnell.

Casual species reported were Red Phalarope, Black-headed Gull, California Gull, Burrowing Owl, and Bohemian Waxwing.

An exotic species, *Amazilia* Hummingbird, may be considered the most exciting bird of the period because of the large number of people who saw it and the difficulty in determining its identification and origin.

SPECIES DATA (* = documented)

Red-throated Loon: All: 1 on 13-14 Nov at MidAmerican ponds in Pottawattamie Co. (*BKP/LJP, BFH), 1 on 25 Nov at L. Macbride in Johnson Co. (*THK, JLF), and 2 (1 probably the L. Macbride bird) on 27 Nov at Coralville Res. (*THK)[3rd latest].

Pacific Loon: All: singles at Red Rock Res. in Marion Co. on 31 Oct (*MPr), 15 Nov (AMJ), and 19 Nov (JLF); 1 at Pleasant Creek L. on 1 Nov (CE-details) and 2 there on 4 Nov (JLF).

Common Loon: High counts: 135 on 13 Nov at Red Rock Res. (AB), 88 on 14 Nov at Saylorville Res. (BE), and 23 on 1 Nov at Lost Island L. (LAS). Summering birds included 1-2 at West Okoboji from 2 Aug to 20 Sep (JJ, BKP/LJP) and 1 s. of Iowa City on 7 Aug (MCD). A few remained through the end of the fall season.

Pied-billed Grebe: High count: 52 on 14 Nov at Big Creek L. (JJD). A few remained through the end of the period.

Horned Grebe: First: 7 Oct at L. Manawa (BKP/LJP). Last: on 27 Nov with 4 at Rathbun Res. (RLC) and 1 at Red Rock Res. (AB). High count: 25 on 12 Nov at L. Manawa (BKP/LJP).

Red-necked Grebe: All (singles): 20, 25 Sep at Sanborn in O'Brien Co. (RGr), 13 Oct at Spirit L. (LAS), and 18 Oct at West Okoboji (JJ).

Eared Grebe: First: 9 Oct at Sanborn (RGr). Last: 11 Nov at L. Manawa (BKP/LJP). Others were reported at Saylorville Res./Big Creek L. on 22, 25 Oct and 3 Nov (AB, SJD) and at Spirit L. on 24 Oct (ETH).

Western Grebe: All: 1 on 7 Sep at Trumbull L. (LAS), 2 on 1, 13 Oct at Spirit L. (ETH, LAS), 1 at Saylorville Res. on 14 Nov (JJD, BE, PJW, AMJ), 1 at Big Creek L. on 14 Nov (JJD), 2 at Red Rock Res. on 15 Nov (AMJ), and 1 at L. Manawa on 23, 26 Nov (BKP/LJP).

Clark's Grebe: A report is referred to the Records Committee.

American White Pelican: High counts: 10,000 at Runnells W.A. on 7 Sep (AB) and 5,100 at Saylorville Res. on 5 Sep (BE). Birds were present throughout the period and in all areas of the state, but most left by November.

Double-crested Cormorant: High counts: 1,600 at Coralville Res. on 10, 23 Oct (MCD, THK) and 1,325 at Saylorville Res. on 1 Oct (JJD). At Coralville Res. 60 nests were counted on 21 Oct at the west end of the reservoir (THK).

American Bittern: All (singles): 18 Aug at Forney L. (SJD, BKP/LJP), 13 Sep at Chichaqua W.A. in Polk Co. (PJW, JJD), and 27 Sep at Snake Creek M. (PJW, AMJ).

Least Bittern: All: 1 on 8 Aug at Moeckley Prairie in Polk Co. (BE), 1 on 14 Aug at Pool Sl. in Allamakee Co. (MPr), and 2 on 27 Aug at Cardinal M. in Winneshiek Co. (DeC).

Great Blue Heron: High counts: 590 at Red Rock Res. on 15 Aug (SJD), 300 at Rathbun Res. on 15 Aug (TNJ), 180 at Coralville Res. on 22 Sep (THK), and 129 at Moeckley Prairie on 3 Aug (JJD).

Great Egret: High counts: 186 at Forney L. on 18 Aug (SJD, BKP/LJP) and 125 at Coralville Res. on 17 Aug (MCD).

Snowy Egret: Last: 2 on 8 Oct at Forney L. (BKP/LJP)[2nd latest]. High counts: 42 at Forney L. on 18 Aug (SJD, BKP/LJP) and 32 at Riverton A. on 10 Aug (BKP/LJP). The only others were singles at Spring Run in Dickinson Co. on 8 Aug (LAS) and at Runnells W.A. on 15 Aug (SJD).

Little Blue Heron: Last: 7, 9 Sep at Mason City (RGo, CJF—photo). High count: 20 (14 adults, 2 calico, 4 immature) at Forney L. on 18 Aug (SJD, BKP/LJP). Single immatures were in Mills Co. on 6 Aug (PHA/RIA), at Riverton A. on 11 Aug (SJD), and Runnells W.A. on 15 Aug (SJD).

Cattle Egret: Last: 30 Oct at Sanborn (RGr). High count: 211 at Forney L. on 6 Sep (BKP/LJP). From 1 to 4 were also noted in Boone, Cerro Gordo, Harrison, Johnson, and Polk counties.

Green Heron: Last: 7 Oct at Grammer Grove W.A. (MPr).

Black-crowned Night-Heron: Last: 3 imm. on 27 Nov at Port Neal in Woodbury Co. (BFH)[record latest except for winter records]. High counts: 23 on 10 Aug at Forney L. (SJD, BKP/LJP) and 11 on 11 Sep at Union Slough N.W.R. (MCK). Another late bird was at De Soto N.W.R. on 15 Nov (JJ)[2nd latest]. From 1 to 4 were noted in Clay, Hamilton, Harrison, Johnson, and Polk counties.

Yellow-crowned Night-Heron: Last: 1 imm. on 11 Sep at Union Slough N.W.R. (MCK). High count: 9 juv. at Riverton A. on 11 Aug (SJD). Juveniles were also noted at Forney L. on 13, 18 Aug (BKP/LJP, SJD) and at Runnells W.A. on 14 Aug (SJD), and 2 adults were at Riverton A. on 22 Aug (JSi).

Ibis species: All: 1 on 20 Aug at Union Slough N.W.R. (Richard Levad fide MCK) and 1 imm. on 11 Sep at Diamond L. (MPr—details).

Turkey Vulture: High counts: 60 on 7 Sep at Coralville Res. (CE) and 45 on 22 Aug at Saylorville Res. (PJW). At Grammer Grove W.A., 255 for the fall was a record high for that "hawk watch" (BPr). At Hitchcock N.A. in Pottawattamie Co. (another "hawk watch"), 594 were counted (MOr).

Greater White-fronted Goose: High count: 160 on 10 Oct at Hitchcock N.A. (BKP/LJP). One was at Forney L. on 10 Aug (SJD).

Snow Goose: First: 1 on 21 Sep at Diamond L. (MPr). High count: 150,000 on 15 Nov at De Soto N.W.R. (JJ). Large flocks were noted in Sioux Co. on 10 Nov (JV), at Pleasant Creek L. on 11 Nov (THK), and at Saylorville Res. on 14 Nov (PJW, BE). The eastward migration shift of this species into Iowa after the windstorm of 10 November will be documented elsewhere by Jim Dinsmore.

Ross's Goose: From 1 to 6 were noted from 31 Oct to 14 Nov at 7 locations across the state.

Canada Goose: 1,361 small forms at Runnells W.A. on 23 Oct were unusual (SJD).

Trumpeter Swan: All: 2 ad. with orange wing tags and 1 imm. at Amana L. on 18, 21 Nov (MPr, CE) and 4 (3 with green neck bands) at Saylorville Res. on 21 Nov (BE).

Tundra Swan: First: 6 on 4 Nov at Union Slough N.W.R. (MCK). High count: 1,000 at Pool 9 on 13, 14 Nov (THK, JLF). From 1 to 9 were noted in Iowa, Marion, and Poweshiek counties.

Gadwall: High count: 346 on 25 Oct at Saylorville Res. (SJD).

American Black Duck: From 1 to 5 were noted in Allamakee, Johnson, Marion, and Palo Alto counties.

Blue-winged Teal: High counts: on 16 Aug, 2,000 at Meredith M. in Hancock Co. (JJD) and 1,500 at Union Slough N.W.R. (JJD, SJD).

Northern Shoveler: High count: 120 on Terra L. on 28 Nov. (BE).

Northern Pintail: High count: 310 at Hitchcock N.A. on 11 Oct (BKP/LJP).

Green-winged Teal: High count: 3,000 at Runnells W.A. on 23 Oct (SJD).

Canvasback: Thousands were at Pool 9 on 13 Nov (THK).

Greater Scaup: All: 1 female on 7 Nov at Pleasant Creek L. (CE—details), a pair on 7 Nov at Silver L. in Palo Alto Co. (LAS), and 3 on 13 Nov at Spirit L. (*Eth).

Lesser Scaup: High counts: 1,650 on 1 Nov at Rathbun Res. (RLC) and 3,000 on 11 Nov at L. Macbride (THK).

Surf Scoter: All: 1 on 25 Oct at Saylorville Res. (SJD, BE), 3 on 28 Oct at Dog Creek P. in O'Brien Co. (DK), 3 on 28 Oct at Rock Creek P. (JLF), 1 on 14 Nov at Saylorville Res. (AMJ), and 1 on 15 Nov at L. Anita (PHA/RIA).

White-winged Scoter: All: 1 ad. male on 5 Sep at Big Wall L. (*JJD)[record earliest], 1 on 25 Oct (SJD) and 2 on 1 Nov (BE) at Saylorville Res., 1 on 5 Nov at Rock Creek P. (JLF), 1 on 13 Nov at Hubbard (MPr), 1 on 21 Nov at Spirit L. (LAS), and 2 on 22 to 27 Nov at Port Neal (BFH).

Black Sooter: All: 4 at Saylorville Res. on 25 Oct (SJD, JJD) and 1 there on 1 Nov (BE).

Oldsquaw: All: 1 on 21 Nov at Saylorville Res. (BE).

Bufflehead: High counts: 125 on 12 Nov at L. Manawa (BKP/LJP) and 325 on 14 Nov at Pool 19 (CE).

Common Goldeneye: First: 11 Nov at Coralville Res. (JLF) and at L. Manawa (BKP/LJP).

Hooded Merganser: High count: 50 on 18 Nov at Coralville Res. (THK).

Common Merganser: First: 1 on 7 Aug at Rathbun Res. (TNJ) and 1 on 28 Aug at Pine L. (MPr) are only the 2nd and 3rd records from August. Most had not arrived by the end of November.

Red-breasted Merganser: High count: 110 on 8 Nov at L. Manawa (BKP/LJP).

Ruddy Duck: High count: 1,000 on 14 Nov at L. Manawa (BFH).

Osprey: First: 14 Aug at Red Rock Res. (SJD). High count: 15 on 1 Sep at Keokuk (RIC).

Mississippi Kite: All: in Des Moines 2 were seen on 18 Aug and 1 on 22 Aug and 9 Sep (PJW).

Bald Eagle: An adult and begging juvenile were noted at Runnells A. on 15 Aug (SJD).

Northern Harrier: High counts: 23 on 11 Nov in Palo Alto, Clay, and Dickinson counties (LAS, MCK) and 14 on 12 Nov at Hitchcock N.A. (BKP/LJP). A record high number of 67 for the season were seen at Grammer Grove W.A. (BPr) and 88 were seen at Hitchcock N.A. (MOr).

Sharp-shinned Hawk: The seasonal counts were 491 at Hitchcock N.A. (MOr) and 456 at Grammer Grove W.A. (BPr).

Cooper's Hawk: The seasonal counts were of 162 at Grammer Grove W.A. (BPr, highest ever) and 45 at Hitchcock N.A. (MOr).

Northern Goshawk: All: 1 ad. on 11 Sep at Sanborn (RGr)[3rd earliest], 1 imm. on 20 Sep at Jester P. (JSi), 1 on 18 Oct at Hitchcock N.A. (BKP/LJP), and 1 on 5 Nov at Red Rock Res. (JLF).

Red-shouldered Hawk: All: birds that nested at Hartman Reserve in Black Hawk Co. were seen through the fall (TSt), 1 imm. in Appanoose Co. on 12 Sep (RLC), 1 at a hawk watch in O'Brien Co. on 20 Sep (LAS), 1 in Warren Co. on 27 Sep (AMJ), and singles at Grammer Grove W.A. on 12, 18 Oct and 14 Nov (BPr).

Broad-winged Hawk: Last: singles at Waubonsie S.P. on 8 Oct and at Hitchcock N.A. on 10 Oct (BKP/LJP). High count: 140 on 15 Sep at Hartman Reserve (TSt). The highest daily count at Grammer Grove W.A. was 90 on 23 Sep, which is low (BPr). A fledgling was noted on 4 Aug at Algona (MCK).

Swainson's Hawk: Last: 3 on 10 Oct at Hitchcock N.A. (BKP/LJP). At hawk watches, 109 (including 1 dark morph) were seen at Hitchcock N.A. (MOr) and 3 were seen at Grammer Grove W.A. (BPr). The only other report was of 1 w. of Mason City on 25 Aug (CJF).

Red-tailed Hawk: Peak counts at Grammer Grove W.A. were 98 on 18 Oct and 80 on 30 Oct (BPr). Of the 965 seen at Hitchcock N.A., 10 percent were Western light morph, 9 Western dark morph, 1 Western rufous morph, 9 intermediate dark morph, 10 Harlan's, and 4 Krider's (MOr). Harlan's were also noted at Sioux Center on 4 Nov (JV) and Union Slough N.W.R. on 15 Nov (MCK). A Krider's was seen in Dickinson Co. on 8 Aug (LAS).

Ferruginous Hawk: A report is referred to the Records Committee.

Rough-legged Hawk: First: 4 Oct in Kossuth Co. (MCK). At Grammer Grove W.A., 13 for the season was the highest in the 8 years of hawk watching there (BPr). At Hitchcock N.A., 8 were seen (MOr). Perhaps, hawk watches are not the best location to find this species, and many arrive after the hawk watching season.

Golden Eagle: All: 1 imm. at Oak Grove P. in Sioux Co. (*JV), 2 on 11 Nov and 1 on 15 Nov at Grammer Grove W.A. (BPr), and 1 imm. on 13 Nov in Allamakee Co. (THK).

Merlin: First: 27 Aug at Coralville Res. (JLF). There were reports from 7 other counties from 7 Sep to 22 Nov.

Peregrine Falcon: High count: 11 on 26 Sep at Effigy Mounds N.M. (Bruce Ehresman fide DeC). There were 11 other reports from 7 counties.

Prairie Falcon: All (singles): 1 Oct at Grammer Grove W.A. (PHA/RIA—details), 8 Nov in Story Co. (JJD—details, HZ—details), 11 Nov at Runnells W.A. (AB—details), and 11 Nov at Hitchcock N.A. (BKP/LJP).

Gray Partridge: Reports were from Cerro Gordo, Clay, Emmet, Johnson, and O'Brien counties.

Yellow Rail: All: 1 on 20 Sep s. of Iowa City (MCD) and 4 at Snake Creek M. on 27 Sep (MDO, AMJ, m.ob.).

Virginia Rail: Last: 24 Oct at Coralville Res. (CE). An adult with 2 chicks was at Union Slough N.W.R. on 2 Aug (MCK).

Sora: Last: 17 Oct in Appanoose Co. (RLC). High count: 19 at Chichaqua P. on 13 Sep (PJW). At Moeckley Prairie in Polk Co., where birds were heard all summer, 2 ad. and 3 juv. were seen on 8 Aug (BE).

Common Moorhen: All: 2 ad. and 7 yg. were at Fomey L. on 11 Aug (SJD), and 1 was at Cardinal M. on 2 Sep (DeC).

American Coot: High counts: 2,500 on a sand pit s. of Iowa City on 1 Oct (MCD) and 5,000 at Saylorville Res. on 21 Oct (SJD).

Sandhill Crane: High counts: on 11 Nov, 540 at Hitchcock N.A. (BKP/LJP) and 340 in O'Brien Co. (DK). From 11 to 13 Nov, following the windstorm on the 10th, there were reports of 1,325 birds in small to large flocks in Appanoose, Dallas, Johnson, Marion, Marshall, O'Brien, Palo Alto, Polk, Pottawattamie, Story, Warren, Winneshiek, and Wright counties. A more extensive report of this amazing migration shift will be presented elsewhere by Jim Dinsmore. At Cardinal M., 2 birds that summered were last seen on 18 Sep (DeC).

Whooping Crane: 7 or 8 were seen southeast of Plainfield in Bremer Co. on 11 Nov (Dana Dinnes letter to JJD), and 1 was seen southwest of Jester P. in Polk Co. on 12 Nov (Jerry Keys letter to JJD). There were also reports from Wisconsin and Illinois.

Black-bellied Plover: First: 20 Sep at Saylorville Res. (PJW) and Coralville Res. (THK). Last: 22 Nov at Saylorville Res. (PJW). High count: 42 at Runnells W.A. on 23 Oct (SJD).

American Golden-Plover: First: 3 on 11 Aug at Red Rock Res. (MPr). Last: 1 on 29 Nov at Rathbun Res. (RLC)[record latest]. High count: 126 at Saylorville Res. on 20 Sep (JSi).

Semipalmated Plover: Last: 11 Nov near Lost Island L. (MCK)[2nd latest].

Piping Plover: All: 8 Aug at Saylorville Res. (PJW) and 11 Aug at Red Rock Res. (MPr).

Killdeer: High count: 280 in Story Co. on 3 Sep (HZ).

American Avocet: All: 3 on 15 Aug at Riverton A. (BKP/LJP), 4 on 1 Oct at Saylorville Res. (JJD), 22 on 20 Oct at Saylorville Res. (AB), and 1 on 13-14 Nov at Runnells A. (PHA/RIA, AB, MPr)[record latest].

Greater Yellowlegs: Last: 2 on 30 Nov at Runnells A. (AB)[record latest]. High count: 20 on 28 Oct at East Twin L. in Hancock Co. (MPr).

Lesser Yellowlegs: Last: 1 on 18 Nov at Runnells W.A. (AB). High count: 60 on 15 Aug at Rathbun Res. (TNJ).

Willet: All (singles): on 11 Aug at Secret L. in Fremont Co. (SJD), and on 15 Aug at Sheldon Pond in Fremont Co. (BKP/LJP) and at Runnells W.A. (SJD).

Spotted Sandpiper: Last: 1 Oct at Fort Atkinson (DeC).

Upland Sandpiper: Last: 17 Sep in Kossuth Co. (JJD). Other reports were from August in Fremont, Jones, and Polk counties.

Marbled Godwit: All: 1 on 13, 15 Sep at Runnells A. (MCK, AB, DCP, JSi).

Ruddy Turnstone: All: 2 at Coralville Res. on 23, 25, 27 Aug and 2 Sep (CE, THK, JLF) and 2 on 2 Sep at Runnells W.A. (MPr).

Sanderling: From 1 to 8 were seen at 8 locations from 11 Aug to 7 Oct.

Semipalmated Sandpiper: Last: 7 on 23 Oct at Runnells W.A. (SJD).

Western Sandpiper: All: 1 at Saylorville Res. on 16 Aug (MDO), 2 molting from aft. to basic at Saylorville Res. on 18 Aug (SJD), 2 on 22 Aug in Fremont Co. (JSi), and 1 juv. on 23 Oct at Runnells W.A. (SJD)[3rd latest].

Least Sandpiper: Last: 24 Nov at Runnells A. (AB)[2nd latest]. High count: 154 on 23 Oct at Runnells W.A. (SJD).

White-rumped Sandpiper: All: 1 on 7 Aug at Saylorville Res. (* MDO).

Baird's Sandpiper: Last: 12 Nov at Runnells W.A. (AMJ). There were 8 other reports of 1 to 6 birds.

Pectoral Sandpiper: Last: 19 Nov at Coralville Res. (JLF). High counts: 459 on 11 Aug at Riverton A. (SJD) and 200 on 15 Aug at Red Rock Res. (TNJ).

Dunlin: First: 10 on 20 Sep at Coralville Res. (THK). Last: 3 on 30 Nov at Runnells W.A. (AB). High count: 61 at Runnells W.A. on 11 Nov (AB).

Stilt Sandpiper: Last: 4 on 29 Oct at Runnells W.A. (AB)[record latest]. High count: 48 on 11 Aug at Secret L. (SJD).

- Buff-breasted Sandpiper:** First: 7 on 2 Aug at Maynard Reece W.A. in Kossuth Co. (MCK). Last: 6 on 20 Sep at Saylorville Res. (JSi). High counts: 100 on 22 Aug at Riverton A. (JSi) and 135 on 1 Sep at Red Rock Res. (AB). There were 27 reports from 11 locations, which is more than usual.
- Ruff:** 1 juv. male was at Runnells W.A. on 23 Oct (*SJD)[record latest].
- Short-billed Dowitcher:** High count: 25 juv. on 13 Aug at Coralville Res. (THK).
- Long-billed Dowitcher:** First: alt. adults on 11 Aug at Riverton A. and Secret L. in Fremont Co. (SJD). Last: 1 on 29 Nov at Runnells W.A. (PHA/RIA)[record latest]. High count: 123 on 23 Oct at Runnells W.A. (SJD). At Coralville Res., 3 remained until 19 Nov (JLF)[ties 3rd latest].
- Common Snipe:** First: 13 Aug at Coralville Res. (THK). High count: 150 on 27 Sep at Blue Wing M. in Palo Alto Co. (LAS).
- American Woodcock:** All: 1 in Appanoose Co. on 31 Oct (RLC).
- Red-necked Phalarope:** All: 1 on 15, 16 Aug at Coralville Res. (MCD, CE), 1-2 at Saylorville Res. on 16 Aug, 8, 11-13 Sep (MDO, m.ob.), and 1 at Red Rock Res. on 2 Sep (MPr).
- Red Phalarope:** 1 at Coralville Res. on 7 Oct (*THK--photo).
- Franklin's Gull:** High count: 60,000 at Rathbun Res. on 11 Oct (TNJ). Large numbers were also reported at other locations and a few lingered until the end of the period.
- Black-headed Gull:** All: At Spirit L. in Dickinson Co., singles were seen on 11, 15 Oct (*LAS, *ETH) and 2 were seen on 8 Nov (*ETH)(all adult basic).
- Bonaparte's Gull:** First: 1 juv./basic on 16 Aug at Kettleston Hogsback A. (SJD, JJD). High count: 464 on 23 Oct at Red Rock Res. (SJD).
- Ring-billed Gull:** At Red Rock Res., numbers were 876 on 14 Aug and 3,500 on 23 Oct (SJD).
- California Gull:** All: 1 first-year at Red Rock Res. 5, 8, 26 Oct and 4 Nov (*AB)[3rd earliest] and 1 ad. at Spirit L. on 8 Nov (*LAS).
- Thayer's Gull:** All: 1 ad. at Saylorville Res. on 4 Nov (AB—details)[ties 3rd earliest], 1 first-year at Saylorville Res. on 6 Nov (AB), 1 second-year at Saylorville Res. on 14 Nov (BE), and 1 first-year at Runnells W.A. on 21 Nov (AB).
- Lesser Black-backed Gull:** All: 1 first winter on 4 Nov at Saylorville Res. (*LAS) and 1 ad. basic on 8 Nov near the Dickinson Co. landfill (*LAS, *ETH).
- Sabine's Gull:** All: 1 juv. on 25 Oct at Saylorville Res. (*SJD)[3rd latest].
- Black-legged Kittiwake:** All: 1 imm. on 22 Nov at Port Neal in Woodbury Co. (BFH) and 1 imm. on 30 Nov at Ottumwa (AB—photo).
- Caspian Tern:** Last: 10 Oct at Hallett's Quarry in Story Co. (HZ). High count: 50 on 21 Sep at Red Rock Res. (AB).
- Common Tern:** All: 1 first-basic on 19 Aug at Saylorville Res. (MDO—details) and 1 imm. on 30 Aug at Tomahawk M. (PHA/RIA—details).
- Forster's Tern:** Last: 18 Oct at Pleasant Creek L. (CE). High count: 83 on 15 Aug at Red Rock Res. (SJD).
- Least Tern:** All: 1 ad. on 15 Aug at Red Rock Res. (SJD) and 1 ad. on 23 Aug at Coralville Res. (CE—details).
- Black Tern:** Last: 30 Sep at Union Slough N.W.R. (MCK). High count: 84 on 17 Aug at Kettleston Hogsback A. (SJD).
- Eurasian Collared-Dove:** 1 was seen and heard at Willow Creek P. in Osceola Co. on 20, 29 Aug and 1 Sep (*BKP/LJP, LAS, *ETH—photos). The Grinnell birds remain into their second year, with 5 seen on 12 Nov (MPr).
- Mourning Dove:** Birds fledged at Ames on 27 Sep (JJD), and an imm. was seen at Mason City on 16 Oct (JLW).
- Yellow-billed Cuckoo:** Last: 23 Oct in Story Co. (HZ).
- Barn Owl:** All: 5 yg. were banded near Allerton in Wayne Co. in early Sep. (Bruce Ehresman fide JJD).
- Great Horned Owl:** On 15 Nov a "tundra" owl was seen at Union Slough N.W.R. (MCK).



Black-legged Kittiwake at Ottumwa, 30 Nov 1998, Photo by Aaron Brees

Burrowing Owl: All: an ad. was at a nest hole e. of Larchwood in Lyon Co. on 30 Aug (Doug Harr fide JJD).

Long-eared Owl: All: 1 was near Irvington in Kossuth Co. on 20 Oct (MCK), 1 was at East Okoboiji on 3 Nov (ETh), and 3 were at L. Anita on 15 Nov (PHA/RIA)

Short-eared Owl: All: 2 in Warren Co. on 27 Oct (JSi, AB) and 4 in Wayne Co. on 7 Oct (AB).

Northern Saw-whet Owl: All: 1 at Algona on 7 Nov (MCK) and 1 in the Amana Woods on 16 Nov (JLF).

Common Nighthawk: Last: 6 on 15 Oct at Des Moines (PJW). Another was at Spirit L. on 13 Oct (LAS).

Whip-poor-will: Last: 2 on 10 Sep at Stone S.P. (BFH).

Chimney Swift: Last: 5 on 15 Oct at Des Moines (PJW). Only small numbers were at Fairfield this year, and the last were seen on 7 Oct (DCP).

Amazilia Hummingbird (*Amazilia amazilia*): A strange hummingbird showed up at the feeder of Carole and Donald Stolz in Des Moines about 12 Sep. It was observed and photographed by many during the I.O.U. fall meeting (*THK--photo, Donald Stolz--photo). It was later determined to be a South American species, most likely the subspecies resident in western Peru, and it was learned that a bird of this species had disappeared from the Des Moines Botanical Center in late summer.

Ruby-throated Hummingbird: Last: 14 Oct at Iowa City (JLF).

Yellow-bellied Sapsucker: First: 2 at Cardinal M. on 31 Aug (DeC). Several were reported in September.

Northern Flicker: 50 were migrating at Iowa City on 21 Sep (THK).

Pileated Woodpecker: Reports were from Johnson, Lucas, Marshall, and Polk counties.

Olive-sided Flycatcher: First: 15 Aug at Riverton A. (BKP/LJP). Last: 13 Sep at Saylorville Res. (MPr).

Eastern Wood-Pewee: An adult was feeding a fledgling at L. Ahquabi on 8 Sep (JSi).

Yellow-bellied Flycatcher: There were 9 reports with the first and last at Grammer Grove W.A. on 15 Aug and 19 Sep (MPr).

Alder Flycatcher: Singing birds were found at Grammer Grove W.A. on 15 and 26 Aug (MPr)[3rd latest].

Willow Flycatcher: All: 2 singing in Wayne Co. on 24 Aug (AB), 1 singing at Runnells A. on 7 Sep (AB), and 1 calling on 20 Sep at Union Slough N.W.R. (MCK—details)[3rd latest].

Eastern Phoebe: Last: 1 at Red Rock Res. on 11 Nov (AB—details)[second latest except for winter records].

Western Kingbird: All: 2 on 14 Aug in Woodbury Co. (JJ) and 2 on 2 Sep in O'Brien Co. (RGr).

Loggerhead Shrike: 1 was a bit far north at Waterman Creek in O'Brien Co. on 22 Nov (LAS).

Northern Shrike: First: 22 Oct in Clay Co. (LAS). There were 6 other reports.

Bell's Vireo: Last: 2 on 22 Aug at Riverton A. (JSi).

Yellow-throated Vireo: Last: 1 singing on 8 Oct at Grammer Grove W.A. (PHA/RIA)[2nd latest].

Blue-headed Vireo: First: 28 Aug at Mill Creek S.P. (LAS). Last: 10 Oct at Storm L. (MPr).

Warbling Vireo: Last: 22 Sep at L. Ahquabi (AB).

Philadelphia Vireo: First: 15 Aug at Ledges S.P. (MDO). Last: 8 Oct at Grammer Grove W.A. (PHA/RIA)[ties 3rd latest].

Red-eyed Vireo: Last: 6 Oct in Johnson Co. (MCD).

Black-billed Magpie: 2 seen southeast of Westfield on 3 Nov (Russ Reisz fide JJD, details) were near the site where they have nested the past two years.

American Crow: Roost counts in Ames increased from 253 on 6 Sep to 5,300 on 27 Nov (JJD).

Purple Martin: Last: 1 on 30 Aug at Coralville Res. (THK). High count: 900 at Spirit L. on 16 Aug (SJD, JJD).

Tree Swallow: Last: 2 at Pleasant Creek L. on 5 Nov (JLF, MCD).

Bank Swallow: High count: 400 at Runnells W.A. on 15 Aug (SJD).

Barn Swallow: Last: 1 at Pleasant Creek L. on 7 Nov (CE)[3rd latest].

Red-breasted Nuthatch: First: 25 Aug at Algona (MCK). There were 3 reports from August, 3 from September, and 2 from October, indicating that this was not an invasion year.

Brown Creeper: First: 20 Sep at Coralville Res. (THK).

Carolina Wren: Reports from 9 counties included several that were unusually far north: at Hartman Reserve in Black Hawk Co. (TSt), at Mason City in Cerro Gordo Co. (RGo, CJF), and at West Okoboji in Dickinson Co. (LAS, MCK).

Winter Wren: First: 21 Sep at L. Meyer in Winneshiek Co. (DeC). There were 6 reports from September. High count: 10 on 7 Oct in Mason City (RGo).

Sedge Wren: Last: 19 Oct at Maynard Reece W.A. (MCK).

Marsh Wren: Last: 18 Oct in Appanoose Co. (RLC).

Golden-crowned Kinglet: First: 21 Sep at Stephens F. in Lucas Co. (AB)[ties 3rd earliest]. There were 5 other reports from September. Large numbers were noted in October: 35 on the 9th at Sioux Rock Access (JV), 20 on the 18th in Appanoose Co. (RLC), and 90 on the 18th at Fairfield (DCP).

Ruby-crowned Kinglet: First: 21 Aug at Mason City (JLW)[3rd earliest]. Last: 2 Nov at Sioux Center (JV). High counts: 25 on 21 Sep at Iowa City (THK) and 30 on 18 Oct at Fairfield (DCP).

Blue-gray Gnatcatcher: Last: 12 Nov at Red Rock Res. (AMJ)[2nd latest]. Another at Grammer Grove W.A. on 8 Oct (PHAVIA) was also late [3rd latest].

Eastern Bluebird: High count: 75 on 22 Oct at Saylorville Res. (SJD).

Veery: All: 30 Aug at Coralville Res. (THK).

Gray-cheeked Thrush: All: 12 Sep at Walnut Creek N.W.R. (AB).

Swainson's Thrush: First: 19 Aug at Grammer Grove W.A. (MPr)[ties 3rd earliest]. Last: 10 Oct at Decorah (DeC—details). Details or documentation should be provided for thrushes seen after September, except for Hermit.

Hermit Thrush: Last: 10 Nov at Spirit L. (ETh).

Wood Thrush: Last: 29 Aug at Grammer Grove W.A. (MPr).

American Robin: High count: 300 on 24 Oct at Rathbun Res. (RLC).

Gray Catbird: Last: 29 Nov in Warren Co. (JSi).

Northern Mockingbird: All: 9 Aug at Liscomb in Marshall Co. (BPr) and 20 Sep at Coralville Res. (THK).

Brown Thrasher: Last: 22 Nov at Mason City (RGo).

American Pipit: First: 4 on 13 Sep at Saylorville Res. (MPr). Last: 3 on 13 Nov at Ames (JJD). High counts: 113 on 23 Oct at Runnells W.A. (SJD) and 100 on 5, 8 Nov at Coralville Res. (THK). There were 22 reports from 10 locations, which is more than usual. Birds at Coralville Res. often landed in several fallen trees (JLF, THK).

Bohemian Waxwing: All: 1 on 21 Nov at Spirit L. (LAS—details).

Cedar Waxwing: A nest contained 3 yg. on 21 Aug at L. Meyer (DeC). Fledged yg. were seen on 9 Sep at Ames (JJD).

Blue-winged Warbler: All: 16 Aug at Decorah (DeC) and 4 Sep at Stephens F. in Lucas Co. (AB).

Golden-winged Warbler: First: 15 Aug at Ledges S.P. (MDO) and at Grammer Grove W.A. (MPr). Last: 17 Sep at Red Bird Farm in Johnson Co. (MCD). There were 13 reports of this species.

Tennessee Warbler: First: 4 on 13 Aug at Grammer Grove W.A. (MPr). Last: 2 on 9 Oct at Coralville Res. (THK).

Orange-crowned Warbler: First: 23 Aug at L. Ahquabi (AB)[3rd earliest]. Last: 23 Oct at Runnells W.A. (SJD).

Nashville Warbler: First: on 15 Aug, 2 at Ledges S.P. (MDO) and 2 at Grammer Grove W.A. (MPr). Last: 10 Oct at Storm Lake (MPr).

Northern Parula: Last: 26 Sep at Effigy Mounds N.M. (DeC).

Yellow Warbler: Last: 6 Sep at Liscomb (MPr).

Chestnut-sided Warbler: First: 15 Aug at Ledges S.P. (MDO), Grammer Grove W.A. (MPr), and Des Moines (PJW). Last: 30 Sep at Coralville Res. (THK).

Magnolia Warbler: First: 15 Aug at Liscomb (MPr). Last: 6 Oct at Indianola (JSi).

Cape May Warbler: All: 1 imm. female on 16 Aug at Tuttle L. in Emmet Co. (SJD, JJD), 2 females on 2 Sep at Mason City (JLW), 1 on 2 Sep at Red Rock Res. (AB), and 2 on 8 Sep at Liscomb (BPr).

Black-throated Blue Warbler: All: 1 female on 3 Sep at Red Bird Farms (MCD—details), 1 on 3 Sep at Hartman Reserve (TSt), 1 imm. female on 7 Sep in Clay Co. (LAS), 1 male on 22 Sep at L. Ahquabi (AB), and 1 male on 11 Nov at a feeder eating sunflower hearts in Mason City (*ESM)[2nd latest].

Yellow-rumped Warbler: First: 31 Aug at Cardinal M. (DeC). Last: 8 on 24 Oct at Kent P. in Johnson Co. (THK). High count: 75 on 30 Sep at Coralville Res. (THK).

Black-throated Green Warbler: First: 15 Aug at Grammer Grove W.A. (MPr)[3rd earliest]. Last: 9 Oct at Coralville Res. (THK).

Blackburnian Warbler: First: 3 on 13 Aug at Grammer Grove W.A. (MPr). Last: 1 on 18 Oct at West Okoboji (JJ)[ties 2nd latest].

Yellow-throated Warbler: All: 1 on 10 Aug at L. Macbride (MCD).

Pine Warbler: All: 30 Aug at Black Hawk L. (PHA/RIA—details), 31 Aug at Hartman Reserve (TSt), and 7 Sep at Ledges S.P. (JJD).

Palm Warbler: Last: 15 Nov at Otter Creek P. in Warren Co. (JSI)[3rd latest].

Bay-breasted Warbler: First: 6 Aug at Hartman Reserve (TSt)[3rd earliest]. Last: 27 Sep at Decorah (DeC).

Blackpoll Warbler: All: 5 on 16 Aug at Spirit L. (LAS)[ties record earliest], 25 Aug at Woodland Mounds Preserve (AB), and 31 Aug at Cardinal M. (DeC).

Black-and-white Warbler: First: 5 Aug at Iowa City (JLF). Last: 29 Sep at L. Ahquabi (AB). High count: 24 on 17 Aug at Sunken Grove L. (SJD). There were 9 reports of 1 to 6 birds in the first three weeks of August.

American Redstart: Last: 29 Sep at Burr Oak (DeC).

Prothonotary Warbler: All: 1 male singing at Coralville Res. on 10, 19 Aug (THK, JLF) and 1 at Sanborn in O'Brien Co. on 1 Sep (RGr).

Ovenbird: Last: 16 Sep at Grammer Grove W.A. (AB).

Northern Waterthrush: First: 12 Aug at Burr Oak (DeC). Last: 7 Oct at Mason City (RGo)[ties 3rd latest].

Connecticut Warbler: All: 15 Aug at Grammer Grove W.A. (MPr—details) and 17 Aug at Hartman Reserve (TSt). These are record earliest dates. Some have questioned the occurrence of this species in Iowa in fall (it migrates to Connecticut!), and the identification is difficult—even specimens have been misidentified. Proescholdt's view was brief, and he expressed some uncertainty.

Mourning Warbler: First and last: 15 Aug and 5 Sep at Grammer Grove W.A. (MPr).

Common Yellowthroat: Last: 13 Oct at L. Manawa (BKP/LJP).

Wilson's Warbler: First: 2 on 15 Aug at Grammer Grove W.A. (MPr). Last: 18 Sep at Pine L. (MPr).

Canada Warbler: First: 15 Aug at Grammer Grove W.A. (MPr). Last: 2 on 1 Sep at Leroy Mill in Dallas Co. (BKP/LJP).

Scarlet Tanager: Last: 29 Sep at L. Ahquabi (AB).

Spotted Towhee: All: 2 on 7 Oct at Rock Valley in Sioux Co. (JV).

Eastern Towhee: Last: 8 Oct at Mason City (RGo).

American Tree Sparrow: First: 18 Oct at Port Neal (BFH).

Chipping Sparrow: Last: 7 Nov at Rathbun Res. (RLC).

Field Sparrow: Last: 5 Nov s. of Iowa City (MCD).

Vesper Sparrow: Last: 2 on 17 Oct in Appanoose Co. (RLC).

Savannah Sparrow: Last: 2 on 4 Nov in Kossuth Co. (MCK). High count: 36 on 17 Oct in Appanoose Co. (RLC).

Grasshopper Sparrow: Last: 27 Sep at Snake Creek M. (MDO).

Le Conte's Sparrow: First and high count: 40 on 27 Sep at Snake Creek M. (AMJ, m.ob.). Last: 7 Nov in Wayne Co. (AB).

Nelson's Sharp-tailed Sparrow: First: 20 Sep at Bjorkboda M. in Hamilton Co. (MPr) and at Union Slough N.W.R. (MCK). Last: 11 Oct at Maskunkya M. in Mahaska Co. (MPr). High count: 6 on 27 Sep at Snake Creek M. (MDO).

Fox Sparrow: First: 27 Sep in Palo Alto Co. (LAS). Last: 1 at a feeder on 12 Nov at Sioux Center (JV). High count: 18 on 7 Nov in Appanoose Co. (RLC).

Lincoln's Sparrow: First: 12 Sep at Spirit L. (ETh). Last: 6 on 17 Oct in Appanoose Co. (RLC).

Swamp Sparrow: High count: 50 on 17 Oct in Appanoose Co. (RLC).

White-throated Sparrow: First: 11 Sep at Burr Oak (DeC).

Harris's Sparrow: First: 20 Sep at Union Slough N.W.R. (MCK). Many were present at Sioux Center on 10 Nov after the blizzard (JV).

White-crowned Sparrow: First: 2 on 20 Sep at Union Slough N.W.R. (MCK)[2nd earliest].

Dark-eyed Junco: First: on 16 Sep, 10 at Algona (MCK) and 1 at East Okoboji (ETh)[ties 3rd earliest].

Lapland Longspur: First and high count: 60 on 19 Oct and 1,000 on 25 Oct at Maynard Reece W.A. in Kossuth Co. (MCK).

Smith's Longspur: All: 2 on 7 Oct and 100 on 25 Oct at Maynard Reece W.A. in Kossuth Co. (*MCK) establish the occurrence of this species in fall in Iowa.

Snow Bunting: First: 28 Oct at Coralville Res. (JLF). From 1 to 11 were noted at 8 locations.

Rose-breasted Grosbeak: High count: 10 at Coralville Res. on 22 Sep (THK).

Blue Grosbeak: Last: 2 Sep n. of Forney L. (BKP/LJP). Other reports were from 2 locations in Fremont Co. on 15 Aug (BKP/LJP), Willow Creek P. in Osceola Co. on 20 Aug (BKP/LJP), and O'Brien Co. on 28 Aug (LAS).

Indigo Bunting: Last: 29 Sep at Coralville Res. (THK).

Dickcissel: Last: 3 Oct s. of Iowa City (MCD).

Bobolink: Last: 13 Oct at Cardinal M. (DeC). Another was at Harrier M. on 27 Sep (MDO, JJD).

Eastern Meadowlark: On 18 Oct, the song and call of 2 were heard s. of Iowa City (MCD).

Western Meadowlark: On 21 Nov, the call of 1 was heard s. of Iowa City (MCD).

Yellow-headed Blackbird: Last: 1 male at Smith L. in Kossuth Co. on 29 Sep (MCK).

Rusty Blackbird: First: 2 on 24 Sep at Cardinal M. (DeC)[ties record earliest]. Also early were 2 at Snake Creek M. on 27 Sep (MDO).

Brewer's Blackbird: Convincing details were given for 20 at Ames on 6 Nov (JJD).

Great-tailed Grackle: All: 10 on 21 Sep at Spirit L. (ETh), 1 on 27 Sep at Harrier M. (JJD), 1 on 19 Oct at Union Slough N.W.R. (MCK), and 1 on 15 Nov in Warren Co. (JSi).

Orchard Oriole: All: 4 on 13 Aug at Forney L. (BKP/LJP).

Purple Finch: First: 11 Sep at Des Moines (CJF). Very few were reported.

Red Crossbill: All: 1 female on 2 Aug at Ames (Steve Maloy fide JJD) and 8 on 19 Nov at Grinnell (JLF).

Pine Siskin: First: 20 Aug near Boone (Karl Jungbluth fide JJD). Another was at Algona on 25 Aug (MCK); otherwise, there were only a few reports from October and November.

COMMENT

The database comprised 32 reports and 27 documentations (of 20 species). I entered 1,452 bird sightings into a database, which is up from 1,200 for the fall season of 1997.

I first began compiling the Field Reports for summer season of 1979. Since then the amount and quality of data has steadily improved. Many species that we strived to document then have long since become regular. It is amazing to me that we continue to find new birds to search for and a season like this fall's that provides many new record early and late dates. After 20 years of the enjoyment and learning from the data provided by many dedicated Iowa birders, it is time for me to retire and turn this opportunity over to others. I will continue to report for the spring and fall seasons of 1999 unless someone else wants to start before then.

CONTRIBUTORS

* = documentation only

Pam H. Allen (PHA), West Des Moines; Reid I. Allen (RIA), West Des Moines; Aaron Brees (AB), Indianola; Dennis Carter (DeC), Decorah; Robert I. Cecil (RIC), Des Moines; Raymond L. Cummins (RLC), Centerville; James J. Dinsmore (JJD), Ames; Stephen J. Dinsmore (SJD), Fort Collins, CO; Michael C. Dooley (MCD), Iowa City; Chris Edwards (CE), North Liberty; Bery Engebretsen (BE), Urbandale; Carolyn J. Fischer (CJF), Mason City; James L. Fuller (JLF), Iowa City; Rita Goranson (RGo), Mason City; Robert Gruenewald (RGr), Sanborn; Bill F. Huser

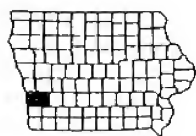
(BFH), South Sioux City, NE; Ann M. Johnson (AMJ), Norwalk; Thomas N. Johnson (TNJ), Mystic; Jack Jones (JJ), Sioux City; Matthew C. Kenne (MCK), Algona; Thomas H. Kent (THK), Iowa City; Darwin Koenig (DK); Paullina; *Ellen S. Montgomery (ESM), Mason City; Mark Orsag (MOR), Crete, NE; Michael D. Overton (MDO), Ames; Babs K. Padelford (BKP), Bellevue, NE; Loren J. Padelford (LJP), Bellevue, NE; Marietta A. Petersen (MAP), Walnut; Diane C. Porter (DCP), Fairfield; Beth Proescholdt (BPr), Liscomb; Mark Proescholdt (MPR), Liscomb; Lee A. Schoenewe (LAS), Spencer; Jim Sinclair (JSi), Indianola; Tom Stone (TSt), Waterloo; Ed Thelen (ETH), Spirit Lake; John Van Dyk (JV), Sioux Center; Phil J. Walsh (PJW), Des Moines; Jan L. Walter (JLW), Mason City; and Hank Zaletel (HZ), Nevada.

211 Richards St., Iowa City, IA 52246

LITTLE GULL IN POTTAWATTAMIE COUNTY

BABS PADELFORD

On 23 April 1992 at about 2:15 p.m., B.J. Rose and I were birding along a gravel road east of Interstate 29 near the MidAmerican power plant in Pottawattamie County. A snowfall of the night before was melting, and some of the fields were flooded. We approached a wet field south of a farmstead where we saw many gulls. There were approximately 30 Bonaparte's Gulls and also many Franklin's Gulls flying around and swimming in the flooded areas.



B.J. spotted the Little Gull in alternate plumage by the dark underwing linings as it was flying nearby. It was very much smaller and paler than the Franklin's Gulls, and noticeably smaller and paler than the Bonaparte's Gulls. The head was all black and the hood extended farther down the nape of the neck than the hood of the Bonaparte's. The eye was all dark. Compared to the Bonaparte's Gulls, the black bill was shorter and thinner, the head was smaller, and the neck shorter.

The mantle was a washed-out gray color. There was not much contrast between the mantle and the white neck and tail. When the bird was sitting, the dorsal primaries looked white in contrast to the black primaries that could be seen on the Bonaparte's wings. In flight, the upper wings were a uniform pale gray with a narrow white edging. Underneath, the wings were a charcoal gray. The tail was entirely white. The legs were bright red and short, rather like a tern.

The bird spent most of the time swimming in the flooded area of the field. When the other gulls flew, it would fly up with them and land again in the water. On one occasion it walked up onto a horizontal stick and we could observe the leg color.

We observed the bird from approximately 75-100 feet for about two minutes. The remainder of the time, it was from 100 feet to 300 yards distant.

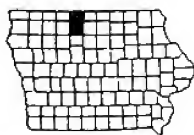
After about 45 minutes, we left the area to call other local birders. We returned about ten minutes later, to find that the Little Gull and many of the Bonaparte's Gulls had departed.

1405 Little John Rd., Bellevue, NE 68005 (lpdlfrd@juno.com)

A MYSTERY FLYCATCHER

MATTHEW C. KENNE

One of the great things about birding is that there are new things to be learned and experienced every day about even the most common birds. However, it is frustrating when you find out that you don't always know what you thought you knew. For instance: How do you identify a Willow Flycatcher in Iowa in summer? The answer: Sometimes you don't!



I was driving along the auto-tour route at Union Slough National Wildlife Refuge at about 10:00 a.m. on 26 July 1998 when through my open window I heard the song of an Alder Flycatcher. Alder Flycatchers are rarely seen in summer in Iowa as their nesting range extends north from central Minnesota, so I left my vehicle to investigate. The habitat wasn't quite right, but maybe I could document breeding in Iowa?

At first, I only heard a Willow Flycatcher sing nearby. Then I heard an Alder sing from the same thicket. Then a Willow sang from exactly the same thicket! Then an Alder sang from exactly the same bird! Fritz'-bew and Free-beer' alternated for about 10 minutes while I watched this flycatcher and scratched my head. Thoroughly perplexed, but believing the bird to be a Willow Flycatcher singing an aberrant song type, I left.

I don't hear Alder Flycatchers every spring, but I do have tapes. And several Willow Flycatchers nest at Union Slough every year, so I know what these birds are supposed to sound like. It just wasn't fair! This bothered me for about 20 minutes, so I drove back and got out my Peterson tapes. I played Alder, I played Willow, but nobody sang... The flycatcher that flitted around from perch to perch called the "whit" of the Willow and refused to play my game.

At home, I looked into mimics, birds learning wrong songs, and research done on Traill's Flycatchers (the species name for Willow and Alder flycatchers before they were split). I found that one of the studies that helped split Traill's Flycatcher into the two species involved switching eggs between nests before hatching. It showed that the young birds sang the song of their genetic parents and not the foster ones. Thus the songs and calls are innate for these species.

Rarely, others have reported one species singing the other's song. Possible explanations include a "dawn song" of the Willow Flycatcher that sounds very similar to the Alder song, and that both species have slightly variable two- and three-syllable songs that are unfamiliar to many. For example, the second Willow Flycatcher song on my Peterson tape sounds almost like three syllables and similar to an Alder song. Even the supposedly definitive call notes are now being questioned (the whits and keps are still good, but watch out for those beeps).

One topic that I didn't pursue is that of hybridization. I have no idea how a supposed hybrid's genetics would sort out song type. I've never seen Stein's 1963 paper that proposed splitting Traill's Flycatcher, but I assume it examined the interbreeding (or lack there-of) in the area of overlap and determined it minimal. As Union Slough isn't in that zone, and there is no way to prove or disprove this bird's identification or parentage, such speculation is interesting but ultimately baseless.

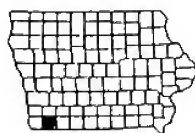
In the end, I still believe the bird I heard to be a Willow Flycatcher singing an aberrant song. But some days, as you well know, empiric species is as good as it gets!

709 N. Phillips, Algona, Iowa 50511

UNUSUAL BEHAVIOR BY A WILSON'S WARBLER

JEAN B. BRALEY

On 15 October 1998, a warbler appeared in my yard, flying back and forth in front of the kitchen bay window too fast for identification. Finally it landed briefly in a honeysuckle bush near the window--a beautiful male Wilson's Warbler with bright yellow breast, belly and forehead and brilliant black cap.



All afternoon, the warbler continued to fly between the honeysuckle and a highbush cranberry 30 feet to the west, pausing briefly at each bush. The next morning was a repeat performance. I sat at the window for ten minutes and counted 19 trips from bush to bush.

Hard rain on the night of the 16th and all day the 17th interrupted the flight pattern. The warbler was seen in the honeysuckle at intervals during the day but on the 18th the flights resumed, always between the same bushes.

The next day, the warbler began spending more time in the honeysuckle, nervously moving around the bush. Observers standing by the window, only three feet from the edge of the bush, did not seem to disturb the bird. I often stepped out to the patio, and the warbler sometimes flew to the nearest twig as if to view me.

During the next week, the warbler's behavior changed, no longer flying back and forth. It now spent time in the honeysuckle. Fellow birders Marie Tiemann and Mary Beth Vaughn were among observers who became familiar with the Wilson "show", with viewing almost any hour between dawn and dusk. We were all fascinated by the warbler's frantic antics--the twitching tail and flipping wings. The bird was not observed feeding, but certainly needed food to continue such constant activity.

By 24 October the warbler had established another "routine", fluttering around the honeysuckle and then coming toward the window before dropping to the patio table below the window and perching momentarily on the rungs under the table. This pattern was repeated each day.

The afternoon of the 26th a Ruby-crowned Kinglet flew into the honeysuckle, and I was provided with a few minutes of pure enchantment as those two tiny birds flitted through the bush with similar nervous movements, the kinglet occasionally flashing a scarlet crown patch.

Each morning, the warbler appeared early until the 30th when it didn't arrive until noon. On the 31st, the bird was in the honeysuckle at 7:45 a.m.

November 1 and 2 were cold, rainy and windy and the Wilson's Warbler was not seen but mid-morning of the 3rd the warbler and several Dark-eyed Juncos flew into the honeysuckle. The juncos dropped to the patio to feed, but the warbler fluttered to the top of the bay window, hovered near the glass all the way to the bottom of the window, and then quickly flew back to the top before landing on the patio table. The warbler spent the rest of the day going from the bush to patio as earlier in the week, and the same pattern was observed 4 November from 9:30 a.m. until 1 p.m.

Cold rain fell on the 5th and 6th and snow on the 7th--but no Wilson's Warbler, although there was an Orange-crowned Warbler in the weeds at the end of the garden on the 6th.

I'm now spending much less time looking out the kitchen window--but I miss that wacky Wilson's Warbler and wonder what triggered the warbler's unusual behavior.

209 West Thomas, Shenandoah Iowa 51601

I.O.U. NEWS

FALL BUSINESS MEETING

Des Moines, 12 September 1998, 4:25-5:00 p.m.

Mark Proescholdt, presiding; Jane Clark, secretary

Proescholdt called the Fall 1998 Iowa Ornithologists' Union business meeting to order. He spoke a few words in memory of Gladys Black, who had passed away on 18 July 1998.

Minutes of the 16 May 1998 meeting were approved as circulated. (motion Zaletel, second Walsh).

Treasurer's Report: Phyllis Brooks has resigned and Rita Goranson was appointed to fill out her term.

Proescholdt reported that the budget had been approved at the March Board of Directors meeting and that Brooks had established an account in Waverly.

Committee Reports

Records: Kent reported that a new edition of the I.O.U. Checklist would soon be available with the listing matching the new American Ornithologists' Union checklist. The only name change is Solitary Vireo changed to Blue-headed Vireo. The new names and order have already been incorporated into the Spring Field Report.

Membership: Maridel Jackson reported that membership needs something to do.

Publications: Harold White reported no problems.

Library/Historical: Hank Zaletel will copy Ann Johnson's materials on Gladys Black for the archives.

Bird Feeder Survey: Rick Hollis stated that a decision needs to be made about getting the survey data into a computer data base.

Birdline: Proescholdt thanked Jim Fuller for his continuing efforts on the Birdline. Curt Nelson thanked Ann Johnson for setting up the IOU web page and for keeping it current.

Education: Zaletel reported that the Education Booklet is still selling. Des Moines Schools have ordered 80 copies. The second book (for grades 6-9) is being edited and will be done by 1 October.

Spring Bird Count: Ann Barker reported record participation in the 1998 Spring Count. Efforts are being made to try to get even greater participation.

Upcoming Meetings: Spring 1999, 30 April-2 May 1999 sponsored by the Rathbun Bird Club. The Fall 1999 and other future meetings are open.

Old Business

The Wildlife Diversity Program is applying for a REAP Pledge Grant for Wildlife Trunks which will be used with the Education Books.

New Business

It was suggested that Don and Carole Stolz of Des Moines be awarded a one-year complimentary I.O.U. membership as Rare Bird Hosts (motion Zaletel, second Jackson). Motion passed.

Breeding Bird Surveys: Lisa Hemesath stated that volunteers are needed for Federal Breeding Bird Surveys. There are eight routes open (4 in southwestern Iowa, 1 near Jefferson, 2 near Waterloo, and 1 near Cresco). Proescholdt recommended a notice in the newsletter.

Kellerton Bird Conservation Area: Hemesath reported that the Iowa DNR is still trying to purchase the original property.

Announcements:

Jim Dinsmore announced that he will step down as editor of *Iowa Bird Life* at the end of 1999 after completing 10 years as editor. By announcing his plans now, he wanted to allow for an orderly succession to the new editor. Dinsmore stated this change would allow new energies into the IOU communications. The newsletter and the journal are the two most tangible items members receive, and we need to make sure they are timely and valuable to the members.

Proescholdt thanked Des Moines Audubon for hosting the I.O.U. meeting which also was their 75th anniversary meeting.

Meeting adjourned (motion Bud Gode, second Zaletel).

BOARD OF DIRECTORS

Des Moines, 12 September 1998, 5:15-5:25 p.m.

Mark Proescholdt, presiding; Jane Clark, secretary

Present: Jane Clark, Rita Goranson, Maridel Jackson, Ann Johnson, Curt Nelson, Mark Proescholdt, Phil Walsh, and Hank Zaletel.

Proescholdt asked the Board to confirm the following committee appointments:

Jim Sinclair for Records Committee (motion Johnson, second Jackson). Motion passed.

Barb Bettis for Membership Committee (motion Jackson, second Walsh). Motion passed.

Jim Durbin for Publications Committee until 2002 (motion Nelson, second Walsh). Motion passed.

Harold White for Publications Committee until 2003 (motion Nelson, second Walsh). Motion passed.

Newsletter: Zaletel said that Harold White had suggested putting the newsletter on the website. The board agreed. Proescholdt thanked the Zaletels for 14 years of newsletter editing. Zaletel reported they will try bulk mailing in the near future.

Treasurer's position: Proescholdt reported that when a Board position opens, the Board can appoint a replacement. Since Phyllis Brooks resigned, Rita Goranson has accepted an appointment to fill out Phyllis' term (motion Jackson, second Johnson). Motion passed.

Board meetings: Proescholdt discussed future Board meetings. Items that need to be discussed are the REAP grant request from the Wildlife Diversity Program, Iowa Bird Life editor possibilities to replace Dinsmore, future meeting sites, job description for the new position of Registrar, and a Nominating Committee for the Spring 1999 elections.

Bird hosts: Don and Carole Stolz were nominated to receive a one-year complimentary IOU membership as Rare Bird Hosts (motion Nelson, second Walsh). Motion passed.

Nelson reported that he will design a new membership brochure, and Johnson will change the information on the webpage at the same time.

Adjourned at 5:25 p.m. (motion Walsh, second Jackson)

NOTE FROM THE EDITOR

As many of you probably noted in the fall I.O.U. News, I have indicated my desire to step down as editor of *Iowa Bird Life* at the end of 1999. This will complete 10 years as editor of the journal. I believe that our organization has considerable talent among its members and there are a number of individuals who are capable of doing a fine job as editor. I know that I.O.U. President Mark Proescholdt is working hard to find a replacement, and I hope that you will help him and the Publications Committee in those efforts. In particular, if there are individuals that you believe who should be considered for this position, I would encourage you to contact Mark and let him know of your thoughts. The position is an important one for the organization, and we want to be sure that the search for a new editor is thorough so that no good candidate is overlooked.





The IOWA ORNITHOLOGISTS' UNION, founded in 1923, encourages interest in the identification, study, and protection of birds in Iowa and seeks to unite those who have these interests in common. *Iowa Bird Life* and *I.O.U. News* are quarterly publications of the Union.

EDITORIAL STAFF

James J. Dinsmore, Editor, 4024 Arkansas Drive, Ames, IA 50014 (e-mail: oldcoot@iastate.edu)
Robert Cecil, Winter Field Reports Editor, 1315 41st St., Des Moines, IA 50311
James J. Dinsmore, Summer Field Reports Editor, 4024 Arkansas Dr., Ames, IA 50014
Stephen J. Dinsmore, Christmas Bird Count Editor, 612 1/2 W. Magnolia St., Fort Collins, CO 80521
Thomas H. Kent, Spring and Fall Field Reports Editor, 211 Richards St., Iowa City, IA 52246
Ann Barker, Spring Bird Count Editor, 25368 250th St., Princeton, IA 52768-9720

SUBSCRIPTION/MEMBERSHIP INFORMATION

Institutions may subscribe to *Iowa Bird Life* for \$20 per year. Individuals may join the Iowa Ornithologists' Union according to the following membership classes: Regular (\$20); Regular as spouse or minor child of another Regular member without publications (\$4 first additional family member, \$2 each additional family member); Contributing (\$20 plus any additional tax-deductible contribution to the I.O.U.); and Life (\$500 as single payment or \$125 for each of four years). Members will also receive the quarterly *I.O.U. News* and are eligible to vote and hold office in the Union. Send subscriptions, membership payments, or address changes to Curt Nelson or Marty Pauley, 22675 Spruce Ave., Mason City, IA 50401 (e-mail: MPauley@jumpgate.net).

INSTRUCTIONS TO AUTHORS

Original manuscripts, notes, letters (indicate if for publication), editorials, and other materials relating to birds and bird finding in Iowa should be sent to the editor. Accepted manuscripts will generally be published promptly, depending on space available, with the following absolute deadlines: 15 November for the Winter issue; 15 February for the Spring issue; 15 May for the Summer issue; and 15 July for the Fall issue. Most manuscripts will be refereed. All material should be typed double-spaced or hand printed in ink on 8 1/2 by 11 inch paper. Authors should pattern their style after a current issue of the journal. If you want more detailed guidelines or advice regarding the appropriateness of your topic for *Iowa Bird Life*, contact the editor. Manuscripts may also be submitted on computer disk (Word 4.0 for Macintosh or compatible programs). Please submit one printed copy of the manuscript with the disk.

OFFICERS OF THE IOWA ORNITHOLOGISTS' UNION

Mark Proescholdt, President (1999), Box 65, Liscomb, IA 50148
Ann Johnson, Vice-President (1999), 532 120th Avenue, Norwalk, IA 50211
Jane Clark, Secretary (2000), 9871 Lincoln Avenue, Clive, IA 50325
Rita Goranson, Treasurer (2000), 115 Lakeview Drive, Mason City, IA 50401
Other members of the Board of Directors: Dan Donance (2000), Maridel Jackson (1999), Curt Nelson (1999), James Scheib (2000), and Phil Walsh (1999).

STANDING COMMITTEES

Publications: Harold White (chair), Ann M. Barker, Dan Donance, Jim Durbin, Ron Muilenburg
Records: Thomas H. Kent (secretary), Bob Cecil, Chris Edwards, James L. Fuller, Ann Johnson, Matthew C. Kenne, Ross Silcock
Membership: Carol Berner, Phyllis Brooks, Jane Clark, Maridel Jackson
Library/Historical: Barb Bettis, Dennis Carter, Sue Spieker, Jan Walters, Hank Zaletel.

UPCOMING MEETINGS OF IOWA ORNITHOLOGISTS' UNION

30 April-2 May 1999, Lake Rathbun/Centerville area

FIELD REPORTS

Anyone observing birds in Iowa is encouraged to report their findings on a quarterly basis to the Field Reports editors. Sample reporting and documentation forms suitable for duplication are available from the editor (send self-addressed stamped envelope to Jim Dinsmore, 4024 Arkansas Dr., Ames, IA 50014). An article describing the reporting process is also available.

Deadlines for receipt of field reports are as follows:

- *Winter (Dec, Jan, Feb)--3 March (Robert Cecil, 1315 41st St., Des Moines, IA 50311)
- *Spring (Mar, Apr, May)--3 June (Thomas H. Kent, 211 Richards St., Iowa City, IA 52246)
- *Summer (Jun, Jul)--3 August (James J. Dinsmore, 4024 Arkansas Dr., Ames, IA 50014)
- *Fall (Aug, Sep, Oct, Nov)--3 December (Thomas H. Kent, 211 Richards St., Iowa City, IA 52246)

CHRISTMAS BIRD COUNT

*Deadline for receipt of reports: 15 January. For forms and instructions write: Stephen J. Dinsmore, 612 1/2 W. Magnolia, Fort Collins, CO 80521.

IOWA BIRDLINE 319-338-9881

The birdline is a recorded summary of interesting recent bird sightings in Iowa. At the end of the report you can leave a message and report recent sightings. Be sure to give your name and phone number as well as the location of the bird and date seen. Call in as soon as possible after sighting a rare bird. Jim Fuller checks the reports daily and updates the recording on Monday, so make sure Sunday sightings are reported by Sunday night.

I.O.U. HOMEPAGE: <http://storm.simpson.edu/~birding/>

I.O.U. NEWS

Send items of interest for the newsletter to the editors (Hank and Linda Zaletel, 1928 6th St., Nevada, IA 50201).

MATERIALS AVAILABLE

Back issues of *Iowa Bird Life* are available through the editorial office. For order form, send self-addressed envelope to: Iowa Bird Life, 4024 Arkansas Dr., Ames, IA 50014.

Field Checklist of Iowa Birds--1996 Edition: 25 for \$8.00, postpaid and other I.O.U. materials are available from Maridel Jackson, 410 SW Wstview Dr., Ankeny, IA 50021-2727. Also available at annual meetings.

REPORTING NEBRASKA BIRDS

Sightings of Nebraska birds, including those within the Nebraska portion of DeSoto N.W.R., should be reported to Loren and Babs Padelford, 1405 Little John Road, Bellevue, NE 68005. Formats for reporting and documentation are the same as for Iowa. The Nebraska Bird Line, available 24 hours a day, is 402-292-5325. Iowa birders are encouraged to report their Nebraska sightings to this number.

ADDRESS CHANGES

Please send address changes/corrections to Marty Pauley, 22675 Spruce Ave., Mason City, IA 50401

ISSN 0021-0455